

EDUCATING THE EXPERTS



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Educating the “Experts”

How Modern Parenting
Approaches Have It Wrong

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DEDICATION

I would like to dedicate this book first and foremost to my husband and children who are the inspiration for all my writing. I would also like to dedicated it to the parents looking for help and through Evolutionary Parenting find reassurance and comfort that their child is doing just dandy.

When I hear stories of success, of parents feeling more confident in themselves and their child's cues, and of families coming together after reading something I have written, I feel like there is a purpose to the hours of research and writing. Thank you.

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PREFACE

When I first started Evolutionary Parenting, I didn't imagine there was a large audience who was interested in the science and history behind parenting. Especially not ongoing discussions of how the science has been misrepresented in the mainstream or ignored by baby "experts" the world over. The first Educating the Experts on crying was written for my own cathartic reasons, not because I thought anyone would actually care to read it.

How wrong I was.

The Educating the Experts series remains one of the most viewed on Evolutionary Parenting year after year. Unfortunately, the lessons contained therein have not changed the number of baby "experts" or trainers out there who continue to advocate leaving children to cry both at night and during the day, recommend scheduled feedings, and speak of children as if their sole life's purpose is to make you miserable unless you nip this in the bud immediately. However, what has changed over the years is that many parents are pushing back as they develop their own understanding of infant and child biology. By realizing that these pieces of advice don't fit within a developmental framework, parents search for alternatives to help them navigate the ocean that is parenting. I can only hope that this continues until we have entire generations that truly understand the impact of sensitive, responsive caregiving that starts at birth.

It is this goal to see change in families which necessitates posts like this series. It's one thing to offer another perspective for people to read, but what's critical is to point out the many, many flaws in what these "experts" are promoting. To point out how science has been badly manipulated by some to argue in favour of practices that should be long-gone. To help educate families about how to read the research, what it says, and why some interpretations are actually incorrect. To make it clear that the issue isn't

one of which method you prefer, but that there are very valid reasons to be concerned about what is being peddled as parenting advice these days. Only when people see the numerous flaws can they truly and properly weigh the information they are given about their baby and his or her development to make the choices that are right for their family.

One thing I need to note about this series before you delve in (if you haven't read any of it yet) or read it again (for those that have read the public pieces) is that this is written *to* the experts. There is snark, there is sarcasm, and, yes, a bit of condescension. Some people have voiced that they took this writing style to be an attack on parents, which it is not. As someone who is regularly bombarded with the onslaught of bad advice dished out to parents by these "experts", I have found that my patience is thin when thinking of how these people make their fortune on the backs of babies who are simply trying to communicate and feel loved in this world and families who are taught to ignore their children's developmental capabilities, leading to detached relationships. It is particularly frustrating when they blithely ignore the science that surrounds infant development and care in favour of approaches that disempower families and treat babies as mindless blobs with no individual variability. So I get a tiny bit rude. (Okay, maybe a *little* bit more than tiny.) I hope you can forgive me and read these chapters for what they are: My own frustrations with these individuals who value their model and money more than the babies and families they are addressing.

The layout is made up of two distinct sections, each composed of four chapters. The first four chapters are made up of the first four lessons that were shared on Evolutionary Parenting and are more general in nature, focusing on elements pertinent to parenting as a whole. They deal with some of the overarching themes that make their way into nearly all of the "expert" books. I start with a discussion of crying as it seems to be the least understood by these "experts" who hold a strict behaviourist view of the act: No crying equals good, crying equals bad, and if you respond to crying, your child will cry more. Decades of developmental and clinical psychology have shown how wrong this is, yet this myth persists and has now become the norm as I recently read a headline about research from Dr. Darcia Narvaez which was as follows: "Research says it's OK to pick up your baby each time it cries". It's OK?! Of course it's okay! In fact, it's more than okay – it's normal and natural and in fact is why a baby's cry is so heartbreaking; your baby *wants* you to pick her up. I continue with a discussion of our children's needs, as the "experts" tend to focus exclusively on the physical needs whilst ignoring the psychological and emotional needs that are very real for our children. Next, the role of touch, which is sadly underused and undervalued in most of our Western world, is

explored. The degree to which our infants need touch has been demonstrated time and again and yet here we are with “experts” telling us to distance ourselves from our children, or only offer touch at certain times, in order to make them “independent”. This first section then ends with a look at the strict schedules that are often a part of these books, whether for feeding or sleep, as these schedules (which are sometimes incorrectly referred to as “routines”) can end up posing more problems for the family and do little to help the baby.

The second section of the book is focused specifically on issues pertaining to extinction sleep training, more commonly known as crying-it-out, controlled crying, or controlled comforting. Why include such a specific section? Let’s face it, most people buy these books in hopes of getting more sleep, not because they really need a how-to on all the other things. In our sleep-obsessed culture, it seems the primary goal of parenting is having a child that sleeps eight bazillion hours a day, thereby not disturbing parents at night or during nap time. Whether or not parents actually *desire* a child who does this is almost irrelevant as they face the pressure from others to have this. It is the yardstick by which parenting and the “goodness” of a child seems to be judge. Yet there are *a lot* of problems with this and this section will hopefully illuminate some of the more pressing concerns and assumptions.

I start by addressing the notion of the “newborn sleep problem” and why this very concept is damaging to how families perceive their child and approach the issue of sleep. This is followed by a discussion of breastfeeding and sleep training. Many “experts” claim that their methods are compatible with breastfeeding, but this simply isn’t true for reasons I will outline herein. Next I tackle the oft-cited claim that extinction sleep training is “safe and effective”, hopefully convincing you that science raises important red flags surrounding the claim of “safety” and doesn’t support the idea of “effective” either. The second section ends with a discussion of how the idea that sleep training leads to “self-soothing” is not only wrong, but rather the opposite holds when we look at the emotion regulation research in more detail. My hope is that by the end of this section, you will realize how disingenuous many of the “experts”’ claims about infant sleep really are.

Let me finish up here by saying that although many of the chapters are available online (though they have been slightly edited herein), not all are. I wanted to make sure I provided those of you who donated for this eBook something extra in terms of information and content. It is my way of saying “Thank You” for helping support Evolutionary Parenting and the work that I do. It also means that, because this book is limited in terms of availability, I ask that you not share widely. Share with a friend if they cannot afford a dollar for a donation and need the help, but please

remember that the work I do on Evolutionary Parenting is free to all because I want to make this information available to help as many families as possible. This is only sustainable if I find ways to make it so, including books like these.

I hope you all enjoy. Class is now officially in.

Tracy

June 2016

**PART I:
GENERAL THEMES IN
PARENTING**

LESSON ONE: CRYING

You call yourselves “baby whisperers” and “experts”. You write books telling parents exactly how to care for their children. You scare parents into believing it’s your way or the highway when it comes to parenting. Yet it seems as though you all require a bit of a brush up on your education. You see, when I see a mother buying your books at the bookstore, or hear of your appearances on TV talking about how your “advice” is necessary to raise a child “right”, my heart breaks for the children of the parents who are blindly following what you promote. You make assumptions that shouldn’t be made and all the while stressed-out and tired parents follow your advice, hoping to regain some sanity, and believing they’re doing best for their baby. And you do so with no regard for the plethora of scientific evidence that is out there suggesting many of your methods not only are wrong, but can actually *harm* babies. I thought it was time you got a lesson of your own (seeing as your credentials often border on nothing) so I have decided to offer you some free (a word you hardly use) lessons on the myriad topics of parenting you are so fond of writing about. At first I thought this would be a one-off lesson covering everything, but I have realized that is foolish and would be way too long for one lesson – you obviously need time to integrate everything and learn what it is that’s out there before you start preaching to the masses again – so we will do this over several lessons, each covering one topic.

Where to begin? I thought about this and settled on a history of what we know about crying. Given your overarching mission of getting babies to stop crying either during the day or at night, it seems that you require a bit more of an understanding of both *why* babies cry and *what* it can mean when a baby isn’t crying. So let’s begin...

Why does a baby cry?

The simple answer to this is to *have his or her needs met*. The more complex answer starts with the fact that crying is the only form of *communication* young babies have (until they start to learn to vocalize or sign) and evolutionarily it has developed in such a way to make parents *want* to stop it. (Of note, parents can use their baby's cues to pick up on what he or she needs, but these cues are technically not a form of communication as they are not done by an infant with the express intent of telling the other what they need, even if they can serve that purpose when parents pick up on them.) It grates on your ears and breaks your heart so that you will address your baby's needs promptly, *not* so that you ignore it in hopes of shutting it down. Depending on the type of cry (because your child will have different cries for different needs), the way your baby expects you to respond will differ, but expecting you to respond is part of the game. It doesn't matter if you're sleeping or working or doing laundry, a baby will cry when he needs something *unless he has a) been trained not to, or b) is in a physiological state that would reduce his ability to cry*. All of you "experts", whether you claim to be against crying-it-out or not, promote forms of leaving an infant to cry. Further, you promote ways of "training" your baby not to cry. So really, you're proposing parents ignore their baby's needs and train them to stop communicating those needs. We need to be clear about this as it is critically important that you fully understand the key role crying plays in an infant's life.

The question of *why* babies cry is pretty simple: Most people are aware on some level that the crying is a baby's way of telling you something, which is why mothers will change dry diapers or put a baby on their breast even if they just ate, all in the name of trying to meet this currently unknown need. I must also be clear here: Babies have needs, not wants. When a baby is upset and you tell a mother, "He just wants attention", that is rather disingenuous as it's not as if the baby can even comprehend the idea of 'wants'. Babies feel these deep emotional pulls as needs and the need for contact and touch are as real as the need for food (a lesson we'll get to later). The real question that needs to be asked is that when you have a child who isn't crying or stops crying, why is that?

Why does a baby stop crying?

From what I can gather, you all seem to assume that because a baby stops crying, he or she is okay. Or that if after two weeks a baby no longer cries before falling asleep, the baby has learned about sleep time and routines and that is why he has stopped crying. Most unfortunately for the babies who have to endure the advice you give, this isn't the case. So why do babies

really stop crying? There are three main reasons:

1) The best answer for baby is that his needs have been met. Baby was hungry and mom fed him. Baby had a wet diaper and it was changed. The amazing part about this is that attending to a baby's needs promptly will actually reduce crying in the long run *in a healthy way*. Mary Ainsworth and Silvia Bell, two developmental psychologists, performed a longitudinal study back in the 1970s while at Johns Hopkins University looking at how mothers responded to their infants' cries and how this affected later infant behaviour[1]. What they found was that the more prompt a mother was to respond to her child's cries, *regardless of how effective she was at reducing the crying at that particular moment*, the less a child cried later on. Furthermore, they also found that close maternal contact (i.e., touch) was the most effective at terminating crying during a given episode. That is, a mother who hears her baby cry and picks him to offer comfort has a baby who is happier and cries less in the long run. Her baby does not decide to cry more in order to get mom to do more of what he wants. It doesn't work that way.

When their needs have been met, babies will cease to cry. Taking this further, the wealth of research on attachment theory demonstrates that the more responsive a parent is in the first year of life, the more securely attached their child is and thus the better the relationship between child and parent throughout the years[2][3][4][5].

In line with this, Dymphna van den Boom tailored interventions for mothers of irritable 6-month-old infants with a focus on increasing maternal responsiveness and sensitivity to their child (i.e., responding to her baby's cries with love and affection, regardless of the time of day)[6]. At the end of the 3-month intervention, she found that the mothers in the intervention group were more sensitive, responsive, and stimulating than mothers in the control group and furthermore, the children of these mothers were more sociable, showed greater self-soothing and exploration, and also cried less than their counterparts. The effects of maternal responsiveness on child behaviour also extends into the older years. Maayan Davidov and Joan Grusec examined maternal responsiveness to distress and maternal warmth in 6- to 8-year-olds and found that greater responsiveness to distress (but not warmth) predicted a child's level of empathy, prosocial behaviour, and negative affect regulation (which would be the equivalent of crying in infancy)[7].

Why is responsiveness related to these positive outcomes? Well, you are all right about one thing – babies learn and they learn rapidly. What you are wrong about is *what* they learn. At a young age, the only thing a baby will truly internalize is a feeling of being safe and loved *or not* and this will play out in future behaviour, including crying, empathy, and helping. We can only know what we have learned, and so a child who learns love,

compassion, and sensitivity will demonstrate that through his behaviour, whereas a baby who does not feel safe and loved will either withdraw into themselves or act out more as a response to the unsafe environment they find themselves in. Let us continue to understand more...

2) A second reason an infant may not cry is because there is a physiological or physical reason preventing him from doing so. The most common of these reasons would be a drastic change in temperature, most commonly becoming too hot. Although a baby will cry when overheated to a certain degree, as the overheating increases, the likelihood of crying decreases as the effort it takes to cry increases the core body temperature even more, resulting in an even greater increase in temperature which is antithetical to the infants' well-being. One of you has promoted quite a bit of layering in order to keep babies from waking up in the middle of the night, under the assumption that babies wake because they're cold (not because of the myriad nutritional and comfort benefits of that breast they look for). What are the risks of overheating your infant? The dangers of overheating, or hyperthermia, include seizures, coma, neurological damage, and death[8]. A case study in the late 1970s found that the extreme illnesses of 5 infants (4 of whom died), which included fever, shock, and convulsions prior to death, was most likely due to the overwrapping of infants leading to heatstroke[9]. There is also ample evidence to suggest that hyperthermia plays a role in Sudden Infant Death Syndrome[10][11][12], making it hugely important to remember the *general* rule that babies should have one more layer than adults and that's it. By promoting practices that lead to infants being too warm, you not only lower their ability to cry and communicate with their parents, but increase their risk of mortality.

3) Finally, the most likely reason a baby stops crying during any training is that he has *given up* or learned that he will not be attended to. If you view a baby crying as a creature trying to manipulate you (as almost all of you do), you will see this as a positive outcome. Indeed, this was the prominent view of children's behaviour in the mid-twentieth century when parents were told not to pick up their children for fear of spoiling them and turning them into little tyrants[13]. This view took hold once behaviourism and learning theory took the helm in psychology, demonstrating people behave in ways related to rewards and failures.

John B. Watson was the first psychologist to promote behaviorism as a form of learning and the first to extend it to childhood with his famous 'Little Albert' experiment. The Little Albert experiment was a case study demonstrating classical conditioning (exactly what you all propose in your books) on an 8-month old boy. In this study, the little boy is conditioned to become afraid of white rats. To do this, the boy was brought into a

room and sat on a mat while a white lab rat was allowed to roam around. At this time, the boy showed no fear of the rat at all. As he reached out to touch the rat, Watson and his assistant Rayner struck a steel bar with a hammer, scaring Albert and causing him to cry. They continued to do this every time the boy reached for the rat. Eventually Albert tries to get away from the rat, showing he has been conditioned to fear the white rat. Amazingly, at a follow-up over two weeks later, Albert showed distress towards any furry object, showing his conditioning had not only been sustained, but had *grown* by becoming generalized[14].

Based on his work and strong belief in behaviorism, Watson also wrote about child-rearing[15], and his ideas aren't too far from your own. His focus was on keeping an emotional distance from children so as not to spoil them; it was his work that led to the promotion of not touching your child too often. Sadly he supposedly later admitted that he regretted writing about child behaviour because he realized he didn't know enough to do so, but the damage had been done, and continues to be pushed today.

This last reason for not crying highlights that we can teach babies not to cry by *conditioning* them to not cry. Not responding to them will tell them that their cries will not get them what they need and in an effort to conserve resources, babies will eventually give up crying. While you all may view this as a positive, it has a very serious consequence, most notably it can result in *learned helplessness*. The concept of learned helplessness was devised by Martin Seligman in response to behaviorism. Seligman had been doing work with dogs and found that they were not behaving the way behaviorism would predict they should when conditioned[16]. Specifically, he tested dogs who were conditioned to electrical shocks. In two of the groups, the dogs were tethered together such that only one had control over when the electrical shocks would end; to the other dog, it was seemingly random. Seligman (and Maier, his partner in these experiments) found that the group of dogs who *did not* have control over ending the shocks displayed behaviour much like clinical depression in adults. Furthermore, when these dogs were then given a situation which they did have control over, they failed to act – they simply sat down and gave up. These results have been replicated with other animals, including babies (though in a benign paradigm)[17], all with the same findings: Once animals and infants have learned that they do not have control, they cease to attempt to affect their surroundings, even when the surroundings change.

Crying it out, strict schedules, and simply behaving as though an infant is attempting to manipulate you in a bad way (and not in the evolutionary or

scientific sense of manipulation for cause and effect) will lead to the removal of control a child has over his or her environment. Crying is the main form of control an infant has and needs to be treated with the respect we would show another adult talking to us about what they need. Although experiments have not been done that put an infant in harm's way, noted psychologist Dr. Kevin Nugent has found many depressive symptoms in babies whose communication with their parents is lacking. Parents who are unable to respond to or are simply non-responsive to their infant's attempts at communication have babies who display classic signs of major depression[18]. Yes, *babies* are showing signs of depression.

In short, not responding to a baby's attempt at communication will (eventually) cause them to give up and may result in long-term learned helplessness. This type of non-crying is damaging to a baby's psychological well-being and development, no matter how beneficial it may be for mom and dad in the present moment.

Conclusions

As we close out Lesson One, I hope you have learned that a) crying is simply a form of communication and the primary one that an infant has, and b) that not all forms of not crying are equal. Infants need to learn that they have control over their environments and can effect change in their lives; they also need to know they are loved and cared for. They do not manipulate their parents in the negative sense of the word. In fact, they are incapable of doing so as they lack the concept of intentional manipulation, and the work of Mary Ainsworth has gone a long way to demonstrate that far from being manipulative, crying leads to communication between caregiver and infant and that this communication leads to a natural reduction in crying as time goes by[1][2]. Most important for you to realize is that simply because a child has stopped crying – as I acknowledge that your training may get a child to stop crying – this is not always a good thing. In fact, the only type of crying cessation that is good is that which results from a child's needs being met. The rest is simply increasing the risk of later problems, something most parents do not actually want.

LESSON TWO: NEEDS

One of the mantras preached by those of you trying to "save parents' sleep" is that a child who has all of her needs met is *only* crying in order to manipulate you (and not in the biological sense of manipulation). You claim the crying is bad behaviour that needs to be stomped out – you need to show your baby who is in charge and make sure that she realizes that she will not get what she wants by crying. If we remember from Lesson One, however, crying is typically the only form of communication that young babies have (and almost always the most readily available) and so to ignore it or to try and stomp it out is simply to cut away your baby's only way of telling you what she needs. You tell parents that as long as they've made sure that their baby's diaper is dry, she's fed, and she's warm, that there are no other reasons to cry. Needs? Met. This allows parents to let their baby cry and to ignore it (or do other rather asinine things like stay in the room looking at them but not touching, smiling, or otherwise engaging with them).

I have a question that I wish you experts would answer: Have you ever been fed, clothed, and dry and still been sad? Or scared? Or simply felt the need for human contact? If you answered "no", you are either a psychopath or lying. The reason we can feel this way is that our needs extend beyond the physiological and arguably, for an infant, the psychological and emotional can be *as important* as the physiological for survival. How did you come to this very limited view of "needs" for infants? I acknowledge that there is the real fact that we do have physiological needs that must be met before we can consider the psychological and emotional, but that does not mean that we ignore the psychological and emotional. We need water and food and heat to stay alive, but there's more! So much more! Sadly you seem to have taken a few more pages from the behaviourists' handbook, much to babies' collective

despair, so let's review how this is wrong (again).

Behaviourism

As discussed in Lesson One, for many years, the dominant psychological theory was the behaviourist view headlined by John Watson, B.F. Skinner, and Edward Thorndike. Behaviourism held the view that all infants were born with a blank slate. As John Watson himself stated in this famous quote:

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select -- doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors.[1]

What does this have to do with needs? The basis of behaviourism is that there is no such thing as introspection; mental states were things that were irrelevant without behaviour[2], or as Skinner claimed, mental states were rejected outright[3]. Well, the *blank slate* approach implies that infants' psychological capabilities are diminished; if they can be fully molded, there isn't much there to begin with that is independent of our input as parents. The failure of the infant to outwardly demonstrate psychological phenomena was taken as proof that they simply did not occur: If there are no psychological states to contend with, only learning, then the only needs an infant can have are those that pertain to the physiological. (It is worth noting that not all psychologists or even behaviourists believed this, but this became the prominent view that received much of the attention of the masses. Because of this, and because conditioning does work in the behaviourist sense, it also seems to have been the basis of much parenting advice.)

Infant Psychological States

We now know that the idea that infants lack psychological or emotional states, even complex ones, is false. Although infants lack the meta-knowledge most adults have about their own psychological states, both common sense and research have demonstrated that babies experience these states regularly and that a parent's understanding and responsiveness to them has far-reaching effects. In fact, even the behaviourists would have to acknowledge that infants can experience emotions such as fear, as John Watson's Little Albert Experiment (discussed in Lesson One) conditioned Little Albert to become fearful of the white rat[4]. So if infants can have

emotional states, what role do parents play? Those parents who have an understanding of the *reflexive self* (the notion that we can be aware of mental events, emotions, and so on, and that this awareness is distinct from actually experiencing these emotions) and use this understanding in their parenting have children who are more securely attached and who show greater mental awareness in later years than those who do not[5]. That is, treating a child as though she has mental and emotional states will lead to greater attachment and her own awareness of her mental states (this shouldn't be a big surprise, but for some reason this isn't a commonly held view).

Further evidence highlighting infants' psychological and emotional states and the relationship to parent behaviour comes from the *Face-to-Face Still-Face paradigm*[6]. In this paradigm, parents are face-to-face with their babies, engaging with them, when the parent suddenly stops and maintains a still face. The parent expresses no emotion for a set period of time until finally the parent resumes facial interaction. During the still-face component of the paradigm, infants display increases in negative affect including withdrawal, grimaces, grasping at the self, and crying (amongst others). Why the infant changes her behaviour is of importance to our discussion here, and it is worth noting there are competing hypotheses. One is that the parent is now violating the baby's expectation for behaviour and thus becomes distressed. A second is that the parent has stopped providing important sensory input that the baby needs in order to regulate her own social and affective state[7]. Research seems to support this second interpretation as simply providing touch during this still-face episode reduces the distress that the infant experiences[8][9][10].

I would argue these findings force us to accept the notion that not only do infants have psychological states, but that the way in which we interact with them will affect these states either positively or negatively. With this hopefully accepted, we now have to consider what *types* of psychological states are relevant for our babies' needs. Most commonly we refer to the psychological state of distress as requiring comfort, and thus most of what I will cover will pertain to this. However, I would be remiss to suggest that that's all there is. Infants require social stimulation in any emotional state, as the Face-to-Face Still-Face paradigm suggests, for infants in this paradigm are happy while interacting and work hard to try and get their caregiver to return to this state of social interaction. Interestingly, in this paradigm, even after the resumption of interaction, the infant's arousal pattern remains mixed – while the positive affect rebounds quickly, the negative affect does not disappear for some time, with an increase in fussiness and crying because of the brief negative event[11]. Although this will prove to be more important in a later lesson, what this demonstrates is that reducing negative affect in an infant can take *time* – it is not an

instantaneous response.

What are our Human Needs?

Even during behaviourism's reign in psychology, a theory of human development was taking place that would have equally far-reaching effects. Abraham Maslow, thinking along the lines of Freud and Erickson, set out to study the developmental stages of human growth psychologically-speaking. Interestingly and relevantly, his focus lay in the study of human needs and he developed *Maslow's Hierarchy of Needs* which emphasized the view that as humans we have levels of needs and only once one level is satisfied can we have the impetus to fulfill the next[12][13]. Generally interpreted in pyramid form, the levels are as follows (starting from the bottom, or most basic, to the top):

Physiological: breathing, food, water, sex, homeostatis, excretion

Safety: personal and financial security, health, illness or accidents

Social/Love and Belonging: the primary relationships in one's life (family, friendship, romantic) – note that in childhood this need may come before safety

Esteem: respect from others, accepted and valued

Self-Actualization: realizing and fulfilling one's full potential

The first four are referred to as *deficiency needs* because they are, in Maslow's view, necessary. The first is required to survive as an organism, yet the second through fourth are also necessary to living a healthy life and Maslow argued that without them, individuals will feel psychologically at odds (including the possible suffering of tension, anxiety, and depression). Other researchers have tested this theory and found considerable support, suggesting that our well-being is intricately tied to our ability to fulfill these needs[14].

Although there have been criticisms of Maslow's hierarchy[15], no criticism has suggested that what he lists as basic needs are not needs. For example, there has been criticism about the nature of the hierarchy with some suggesting that no hierarchy is needed, while others suggest the hierarchy is culturally dependent (and thus the third need – love and belonging – would be even more paramount in collectivist cultures). But it would be very difficult to find an individual today who assumes that humans, even infants, have *no* needs outside of the physical.

I hope that at this stage you can accept that psychological and emotional needs are real and found worldwide. To assume that only the first level of physiological needs matter when dealing with a newborn ignores the research (and common sense) that demonstrates there is much more to

well-being than simply being fed, dry, and not in physical pain.

Importance of Psychological and Emotional Needs

Assuming we are in agreement that physiological needs are not the only ones, the next question to address is: *what happens when these psychological and emotional needs are not met?* Here I outline four areas of research that help demonstrate the very real and serious consequences of ignoring the psychological and emotional needs of young children and infants.

Orphaned Children in the Early to Mid-Twentieth Century. Our best understanding of the long-term effects of emotional and psychological needs not being met comes from studying individuals who grew up in environments where the fulfillment of these needs were either absent or strongly muted and comparing them to those who had those needs met. This is hard to do because you can't randomly assign a child to grow up in such an environment to see what happens (thank goodness!), but sadly there *are* situations that have allowed this comparison to be done. For many years, infants placed into institutionalized care were cared for in the most basic of ways. They were held to be fed, they were changed and kept dry, some had mobiles to look at, but they were rarely socially stimulated and certainly never had their comfort needs met as regularly as necessary. They cried and were left to cry in part because of the belief that only their physical needs needed to be met (and in part because of a dearth of resources available to caregivers to properly care for the number of orphans they were faced with caring for).

Despite the belief that only physical needs mattered, a strange thing was happening... babies were dying. In the early part of the twentieth century, it was reported that close to 90% of infants in orphanages were dying, and the 10% who weren't were getting some type of foster care[16]. Children that didn't die in orphanages were not in the clear; one longitudinal study looking at children who were orphans in institutional care in the mid-twentieth century found significantly more psychosocial dysfunction (i.e., mental health problems), stress, and chronic illnesses in these now-adults than matched controls[17]. Importantly, as soon as orphanages provided comfort as part of the basic care provided to infants, mortality and morbidity rates dropped dramatically[16].

John Bowlby's Maternal Care and Mental Health[18]. At the end of World War Two, the World Health Organization became deeply concerned with what soon became apparent were very negative outcomes for some children in Eastern Europe. Because of Bowlby's academic and clinical work on problem children and the effects of institutionalized care on

development (for which he found mental health problems associated with a lack of psychological and emotional needs being met), he was commissioned to write a report on the mental health of homeless and orphaned children in Eastern Europe.

In this report, it was written that children *need* a close, warm, intimate, and *continuous* relationship with their mother, or permanent mother substitute, and that the lack of this type of relationship can have serious and irreversible mental health consequences. He noted that the social needs of these babies and children were not secondary to their physical needs, but were *equally primary* as evidenced by a child's influence in attaining social interaction. Importantly, Bowlby was one of the first to argue that the feeding relationship was not the primary way in which the mother affected her child's well-being, but that her closeness to her child and offering of comfort was *more* important.

Bowlby's monograph was highly criticized at the time, as there was a strong push to argue that either a strong parent-child relationship or maternal love was not necessary to a child's well-being. Bowlby's take on feeding (i.e., that it was less important than physical comfort), however, was highly criticized at the time as many people felt that only through meeting a physiological need would there be the bond between parent and child or that as long as someone fed the child, it didn't matter what else happened. Later work, including Bowlby and Ainsworth's work on attachment theory, would silence many of these critics (though obviously not all), and today there is no doubt that the lack of a sensitive, loving, and responsive parental relationship increases the risk for mental health problems.

A Two-Year Old Goes to Hospital. In 1953, James Robertson produced a short documentary on what happens to a child who has to go to the hospital, which at the time inherently included a period of maternal separation. This is a heart-wrenching film that is now shown in almost all introductory developmental psychology courses. The motivation for the film was that, at the time, visiting children at the hospital was very limited, and during his work as a psychoanalyst he observed children's behaviour upon separation. While the medical professionals treating the physiological problem saw young children (Robertson focused on under 3's) protest at first, they also saw that they soon became compliant and quiet (sound familiar experts?). What Robertson observed over years of studying the children from a psychological perspective was three phases of response: Protest, Despair, then Denial/Detachment[19].

The movie is shot to provide evidence of this trauma and centers on Laura, aged 2, who goes in for a minor operation but will spend 8 days in the hospital. If you can find the film and stand to watch it (for it will make you cry), you will witness a child who is too young to understand her

mother's absence and who cries for her mother regularly, but who is forced to face this very scary, unfamiliar, and at times painful experience on her own. She finally becomes quiet and "settles" as the doctors put it, but once her mother returns, we see that Laura never settled. She remains withdrawn, even from her mother, showing signs of having undergone a massive trauma. There is no follow-up to see how Laura does, but the film is the reason that many children's hospitals changed their policies. Further examination of Robertson's claims demonstrated that indeed children were suffering and thus policy changes were a must. It is worth noting that although the maternal separation was great during these periods for these children, it was not absolute, and in many cases the children were expressing the psychological and emotional need for comfort when they were fed, dry, and not in physical pain; they were simply scared.

Harry Harlow's Monkeys[20]. Because of John Bowlby's work, Robertson's film, and general work on the loss of maternal care, Harlow decided to go one step further and research what is it that mothers (yes, at the time all the work was on mothers) provide that led to these negative outcomes. In studies that would never pass an ethics review today, Dr. Harlow was motivated to discover the relative weighting of feeding versus comfort in maternal care. That is, what is the relative importance of offering food versus comfort to a young infant?

To do this, Harlow separated young monkeys from their mothers at birth and provided them with two surrogates. In the most famous experiment (others were all variations on this and simply provided further evidence for his findings herein), one surrogate was a wire monkey who provided food for the baby monkey while the other was a cloth mother designed to offer some form of contact comfort. Most people expected the monkeys to spend all of their time with the wire mother who offered food – after all, we *need* food to stay alive and we should want to spend time with the person that offers it, right? But the exact opposite happened. Although the monkeys went to the feeding surrogate when hungry, they spent the *vast majority* of their time with the cloth surrogate. Further, during negative or scary periods, they clung to their cloth mother for protection and comfort. When the monkeys were brought to new surroundings with their cloth mother, they used "her" as a base from which to explore. If either no mother or the wire/food mother was there instead, the monkeys became erratic, upset, and/or violent. They were afraid of their surroundings and had no secure base from which to explore; only the cloth surrogate provided that psychological foundation of safety. In short, despite having their immediate physiological needs met by the wire monkey, only the mother that provided comfort (however shabbily) provided the necessary psychological comfort that allowed the monkeys to handle new situations.

Taken together, these pieces of research demonstrate that the failure to provide for infants' psychological and emotional needs can result in dramatic social deficits, physical problems later in life, and even death. I know many of you experts would comment that most children today whose parents follow the advice in your books are hardly experiencing these extreme circumstances. You're right. But by knowing what happens in the extreme cases, we're able to understand some of the *subtler* effects that can arise from moderate use of these behaviours. It is important to remember that these effects exist on a sliding scale – it's not all-or-none – and that regular neglect of some elements of the psychological and emotional may have long-term and far-reaching effects. Furthermore, the individual temperaments of children will influence the ways in which they respond to these techniques, with some children experiencing harm with minimal neglect. Not knowing what children will suffer most, why would we suggest using any method that raises this risk?

Conclusion

To sum up, despite behaviourists' best attempt to have us believe that infants are indeed blank slates with no psychological states, we know that not to be the case. Infants may lack meta-awareness, but they feel and experience the world socially and these states are arguably as important as their physical state, especially to them. As people offering parenting advice, instilling the notion that a baby's needs are met because they are fed, dry, and warm is simply ludicrous and horribly damaging. So what should you promote? Well, we'll get to that in Lesson Three which focuses on the importance of touch.

LESSON THREE: TOUCH

“Touch is ten times stronger than verbal or emotional contact, and it affects damned near everything we do. No other sense can arouse you like touch... We forget that touch is not only basic to our species, but the key to it.”

- Dr. Tiffany Field

Imagine your child playing happily on the floor when someone knocks over a book; it hits him and he starts crying in pain. What do you do? Or imagine your child playing in the living room when you quickly leave the room to get something. During your absence, a large crash comes from somewhere else, but is loud enough to scare your child and he starts crying. Then what do you do? What do you do if your child is sitting in your lap getting his immunizations and cries as the needle enters his leg? What do you do if, the day after getting immunizations, your child goes to the doctor again and becomes terrified upon seeing the room or the doctor? The vast majority of people will respond that they would immediately pick up their child and hold him to calm and comfort because that is the instinctual response. You see, touch is our primary way of offering comfort, not only to those who are non-verbal, but to anyone, and because touch is such a primal form of communication, we have evolved to *expect* touch, and lots of it. Sadly we seem to have hit a point in society in which touch is being labeled as potentially negative and thus avoided because of the very real and awful effects of *unwanted* touch. But even those unwanted experiences serve to highlight the very strong effect touch has on our emotional well-being. Whereas *unwanted* touch holds the power to maim an individual’s well-being, *wanted* (and needed) touch has the power to heal.

In Lesson Two (on needs), we talked about the social, psychological, and emotional needs of infants and how they were as important to an infant thriving as his physical needs. Part of what makes these needs so important

is touch. Touch is the key to the comfort we provide our children and babies; it isn't cognitive, visual, or even vocal—though they can play roles—it's tactile. In this lesson, I hope to outline for you the myriad ways in which touch affects our lives and why any advice that promotes a reduction in touch isn't serving to help our children.

Touch As Communication

Does anyone remember the song 'More Than Words' by Extreme from the 90s? When this song came out, I remember being rather disgusted by it actually. It was such the clichéd theme of 'don't tell me you love me, show me' that us girls were all warned about in school. And yet, here I am, fifteen years later, realizing there's a beautiful and accurate sentiment entrenched in this song (even if it wasn't intentional). I want to focus on two lines for a moment: 'All you have to do is close your eyes/And just reach out your hands and touch me'. In a very real sense, that is exactly what our children expect us to do in order to show them love, and although we do it to a degree with children, when was the last time you consciously used touch as a means to communicate with an adult? We tell people we love them, yet too often we don't show them in our daily living outside of the most intimate act with our partners. With one touch we can communicate an array of emotions—love, anger, indifference, jealousy, fear—and because of the nature of the tactile sense, we are able to pick up nuances that words simply don't speak. As a society, we are so focused on words as the means to express ourselves that we've long forgotten that touch is not only the oldest form of communication (and first to develop in utero), but as humans, our largest[1][2]. Our skin covers our entire body, and every square inch has nerves that can pass information on to the brain, meaning that we can get more information through touch than from any other sense.

Let's now think of this from an infant perspective. At birth, an infant can barely see and doesn't understand language, but he can smell and most certainly can feel. Thus, telling an infant you love them doesn't convey very much information. If you spent hours a day talking to your baby, confessing your love, *but withholding touch*, he would grow up nearly as damaged as those you read about in Lesson Two. Indeed, one prominent psychologist and ethologist, Konrad Lorenz, theorized that along with the physical features that make infants so cute—making us adults want to care for them and ensuring their survival—an infant's skin is soft and silky in order to *facilitate* lots of touch[3]. That's right: Babies *want* us to touch them and they have evolved physically to try and get us to do just that.

Why would an infant need that? One of the main reasons is that touching babies helps to regulate them physiologically. That is, touch can

serve to control arousal states, including alertness, drowsiness, heart rate, temperature[4][5], and can also serve to calm, including the reduction of cortisol and β -endorphins, both hormones associated with the stress responses[6]. It is worth noting that while we typically combine touch with other senses to calm an infant, research has shown that touch with vestibular changes *without* any talking results in calming of infants while talk alone *does not* [7]. Yes, when you sit and try to calm a crying baby by talking to him, it does not actually work on a physiological level.

The communicative functions of touch extend beyond the physiological and into the emotional. In one review of the literature on the effect of touch on emotion, Matthew Hertenstein of UC Berkeley explains that touch can communicate a plethora of emotional information, including valenced emotions, positive emotions, negative emotions, and discrete emotions[8], and this is not limited to extreme forms of touch. For example, when testing infants' reactions to negative emotions, the type of touch used was simply static, nothing harsh or cruel[9]. Furthermore, other research has shown that depressed mothers interact in different ways with their infants, passing on information about their negative state via touch, resulting in negative emotions being experienced by their babies[10].

In short, for humans, and particularly for infants, touch remains (one of) the most important senses we have and allows for the communication of not only physical states, but emotional as well. For infants who lack the means of advanced forms of communication, like talking, it is essential that we understand how our touch, or lack thereof, is passing on key information to them on a regular basis.

Touch Can Save and Cost Lives

Although I feel we've already gone over the cost in lives in Lesson Two, I'll briefly summarize it here as well: Our primary understanding of the effects of lack of touch on human infants stems from observations (and then interventions) into the plight of children in orphanages and institutional care where, until recently, the basic physical needs were met, but the emotional and psychological needs (predominantly based in touch) were excluded. The effects on infants were catastrophic, with an approximate 90% infant mortality rate and severe behavioural and social problems in those that managed to survive[11][12]. Even later in life, adults who had been raised in these institutions showed deleterious effects including chronic illness and psychosocial dysfunction[13]. However, when things are this bleak, there is usually a silver lining, and in this case it is the fact that the opposite holds true—providing touch to those at risk can drastically improve their outcomes.

Many of us know the stories of preterm babies who have been given no

chance to survive and are then put in their mother's arms only to live[14]. To those of us who understand the importance of touch, these cases highlight what we already know, but to a critic they are simply anomalies or even miracles. Luckily for those of us believers in touch, researchers have managed to experimentally examine the effect of touch on preterm and low birth weight infants by randomly assigning infants to either the standard care in hospitals or skin-to-skin contact with a caregiver (also called Kangaroo Care). What has been found is that infants who receive Kangaroo Care had lower rates of infection[15], decreased pain for certain procedures[16], better exclusive breastfeeding rates[17], better weight gain [17], a more mature neurobehavioural status[18], and a reduction in hospital stay[15][17]. Do I really need say anything more about the overarching and powerful healing effects of touch?

Touch Builds Bonds

Some of you experts do talk about the importance of providing your baby with positive touch, such as hugs and kisses, *when he is not distressed*. Although this *isn't* a substitute for responsiveness to distress (which refers to sensitive, caring responses to a child that is not in a positive state, but in a negative, or distressing, state), you at least realize the power of touch to build bonds and promote loving relationships. However, there are still those of you who promote such rigid schedules that I can only assume you fail to recognize the overarching *need* for parents and infants to touch each other regularly and spontaneously if they want to build a healthy relationship.

As previously mentioned, at the basic physiological level, touch reduces stress responses in infants[6][19], but it also affects the ways in which we behave ourselves and interact with one another, as children whose parents demonstrated greater responsiveness to distress (including by touch) were more empathic[20] and not as closed off from others[21]. Touch also governs our emotional welfare, with greater positive touch related to greater satisfaction, happiness, and overall well-being[2][22]. Experimental studies also demonstrate how influential touch is in our perceptions of and interactions with others, even during the most benign of interactions. In one study, touch was manipulated during the returning of library cards to participants, with half of the group receiving the briefest of touch during this transaction (hand touching the other hand while returning the card) while the other half received no touch. Participants who had been touched reported more favourable views of the library than those who received no touch, *even though the participants who had been touched did not recollect the touch*[23]. Thus the power of touch was strong enough to influence cognitions and emotions without actual *awareness* of the touch.

In another study, it was found that touch between a nurse and patient the day before a surgery decreased the patient's stress, both measured physiologically via heart rate and blood pressure and subjectively by the patient[24], then when no touch was given. Given the negative effects of stress on our bodies and health in today's society, touch may be the life-saving treatment we are all in need of.

Why is touch so powerful? With respect to building bonds and relationships, we know the effect of skin-to-skin contact releases oxytocin, the 'love' hormone, which facilitates bonding and feelings of affection[25]. This is why it is advised that newborns are placed on their mother's chest right after birth (when possible) and why skin-to-skin contact is so effective at calming babies down. In adult relationships the same premise holds, with couples who report higher levels of touch—such as holding hands, kissing, cuddling—also reporting greater relationship satisfaction[26]. Of course, it's possible that people in better relationships are just more apt to touch each other; however, research on the levels of oxytocin in one's system and the frequency of touch suggests that there is a causal relationship. For example, women who report having received more physical contact from their partners in the past also show higher levels of oxytocin and lower blood pressure (an indicator of stress) than women who report less physical contact[27].

Be it through the role of oxytocin or some other as-yet unknown mechanism, positive touch affects us positively, and this is especially critical for babies whose goal in early life is to build these relationships to ensure their safety and survival. Dr. Tiffany Field, one of the leading researchers on touch, found that infants who were reinforced with touch showed more smiling and vocalization and less crying than those babies who were only presented with mom's face and voice[28]. Additionally, touch in infancy has long-reaching effects with infants who receive little touch often having problems accepting touch as adults, resulting in problems engaging and maintaining meaningful relationships[1]. Yes, touch helps us form loving and lasting relationships, but even the smallest amount can leave us calmer and happier.

Aggression and Touch

In Lesson Two we learned about Harry Harlow's monkeys. What wasn't fully covered was that these monkeys, being very touch-deprived (no, a cloth surrogate does not count as "touch"), were incredibly aggressive and antisocial. Interestingly, in some cases given the chance to care for a younger monkey – and all the touch and affection involved – led to an improvement of their socialization and reduction in aggression (though these monkeys could never be fully integrated with others again as the

damage was too great)[29]. Although it's clear that this level of deprivation is not normal in our society – nor is it condoned by anyone – the research does suggest that there is a linear relationship between aggression and frequency of positive touch which has been borne out in studies with humans.

In a series of cross-cultural studies, Dr. Field examined the amount of touch and aggression in preschoolers and adolescents in both the United States and France. In all cases, she found greater positive touch in France for all ages and an associated decrease in aggression and violent tendencies[30][31][32]. Interestingly, she also found that adolescents who experience less touch use more self-stimulating behaviours—drinking, drugs—which she hypothesized to be a response to the lack of touch. How would this work? Touch stimulates the self and increases the production of oxytocin (remember, the love drug?), thus the lack thereof may lead to individuals attempting to replicate or stimulate this feeling of well-being when touch is unavailable. Unfortunately, like all forms of self-medication, it is rarely as effective and often more damaging.

Even without the research, we can look back to history to see the effects of touch on aggression: An anthropological examination of 49 societies in the 1970s demonstrated very disparate adult behaviours based on the degree of touch offered to infants in these societies[33]. For those societies in which infants were lavished with touch and affection, common adult behaviours included: low invidious displays of wealth, low theft, low religious activity, and negligible killing/torturing/mutilation. For those societies in which pain or indifference was the normal state of affairs for infants we see: slavery, polygamy, inferior status for women, and aggressive religious gods. (Does this remind you of any traits of certain societies today?) This is on top of the already differential levels of aggression and violence in the given societies.

Looking even further back, it seems that societies were at least implicitly aware of the effects of touch on aggression as early as the Spartan years (and possibly earlier). In Sparta, a war-heavy society, children were removed from their parental homes at 7 years of age in order to train them to be warriors. Not surprisingly, the training was not the type to include hugs and cuddles, but was harsh and brutal, the type of training needed to turn these children into hardened warriors, willing to kill others in a brutal fashion[34]. Today we see similar behaviours in the development and use of child soldiers in war-torn countries. Children removed from their homes to a base with no caring and little touch creates cold-hearted killers. Although there are many factors that affect the presence and degree of antisocial and aggressive behaviour in children and adults, the research leaves little doubt that a lack of touch plays an important role.

(It is worth adding here that there is also a relationship between negative

forms of touch and behavioural problems, as we would expect. In one study, it was found that harsh touch in infancy was associated with both behavioural and emotional problems later in life[35]. This is important to remember because touch that does not comfort or offer kindness can do lasting harm. A mother who grabs her infant is not helping her and in no way should the aforementioned research on touch be construed to include this negative type of touching.)

How Does This Fit Into Your ‘Expert’ Advice?

As I mentioned at the beginning, some of you seem to realize the importance of positive touch and promote play touch during the day only, when a baby is happy. Others, not so much. Here is where I hope to make it clear that both views are actually doing children a disservice. First, there is the logical problem associated with advice to not provide positive touch at night. That problem is that infants simply do not understand the boundaries of day and night. When you sleep 18-20 hours a day (as most newborns do), sleep is sleep and occurs whenever and wherever. Furthermore, if you’re telling parents not to cuddle when their baby is distressed when he should be sleeping, you’re ignoring that this sleep time is actually a *majority* of the time that baby is awake. That means you’re suggesting parents ignore their child’s need for touch *more than half the time*. What you need to understand is that touch isn’t discriminatory; children and babies require touch at all hours of the day. Extending this point, let me ask you a question... How often is enough to be touched? How much does a mother or father need to touch their infant during the day to “make up” for the lack of touch at night or during sleep? Because in Western societies, our youngest infants are touched by humans approximately 12-20% of the time and our oldest infants (still under a year), less than 10% of the time[as reported in 36]. Do you really think that’s enough? It seems to me that we’re teetering into the extreme zone covered in Lesson Two, and I wouldn't be surprised to find out that it was one of the factors leading to the ever-increasing rates of childhood aggression and psychological disorders[44].

Second, some of you will argue that you promote being in the room with your infant while they cry in order to reassure them, but do not allow for contact. I hope this entire post has made it clear that that is far from ideal from the infant’s perspective. This notion of soothing by merely being present is rather ludicrous and contrary to what we know about infants’ responses to such situations.

Third, research has shown that attachment is built upon consistency of sensitive and warm responsiveness. Thus, consistency of touch and consistency of responding to an infant’s needs are critical to building a

secure attachment with your baby[37]. A failure to provide support, primarily in the form of touch, during the stressful nighttime for baby simply adds confusion as babies don't know how to interpret the absences or the presence without touch. As intelligent as babies are, you're asking them to try and understand something they are simply not capable of doing. In line with this, some of the worst psychological outcomes for abused children come from cases where the abuse was inconsistent—not knowing what to expect led the child to have to function on high alert all the time which is damaging on many levels[38]. Additionally, there is other research suggesting that infants have a flesh memory for touch with their caregivers and thus the gaps at night are truly realized and remembered long-term[39][40][41].

Finally, there is emerging research to suggest that the hugs and kisses we provide during the day have little effect on how our children perceive their security, or our ability to make them feel safe and secure, when they are feeling distressed. Though there is no doubt that certain practices have global effects on our children (like abuse), one factor that has always befuddled researchers is how hard it has been to show global effects for most practices. After all, we think of parenting as a unitary construct and any part of the practice should have widespread effects. What researchers Joan Grusec and Maayan Davidov have proposed, however, is that we are making a mistake in thinking of parenting as a unitary construct[42]. Upon reviewing a plethora of research on parenting, it looks as though the socialization of our children really is made up of domains and problems in one domain affect only the outcomes associated with that particular domain, and not others. In the case of touch, play and cuddles during the day would be part of the 'reciprocity' domain in which parent and child interact as equals in a pleasant, positive manner. This is distinct from the 'protection' domain whereby our children expect us to care for them and respond to them when they are distressed. Some evidence for this particular distinction comes from research showing that responsiveness to distress at six months predicted fewer behavioural problems and greater social well-being later in development, but sensitivity and warmth to non-distress (i.e., playing and cuddling with your child when he or she is not distressed) had no such predictive powers[43]. Thus, the promotion of lack of tactile comfort during certain times may not result in widespread problems in children, it may raise the risk of negative effects on some very important areas of social and emotional functioning.

Conclusion

In sum, touch is unbelievably powerful and you must understand that it can be used for good or bad, but it is equally important to understand that

within the realm of positive and negative touch, these types of touch are not simply interchangeable. That is, the hug that comes from calming a distressed child is qualitatively different than the hug that comes when you're playing with your child during the day. The type of touch may be the same, but the effect it has on our children – especially our babies – is quite different. Notably, our children need *all* of these different kinds of positive touch in spades if we want them to thrive and so asking parent to limit their touch just simply doesn't make sense.

LESSON FOUR: SCHEDULES

Up until now we've been focusing on infant responsiveness. However, in this lesson we're going to take a turn and focus instead on the concept of routines or schedules. Most of you are adamant advocates for the schedule. Some of you are more strict than others, but you nearly all say that parents should instill a "routine" (really you mean "schedule", something we'll get to below) starting at day one, most claiming that researchers and doctors state that children do better when they know what's coming. Quite expectedly, it's not that simple.

Routines

What is a routine and specifically how does it pertain to parenting?

Routine (n): A customary or regular course of procedure. For example, if every time you go to the gym you start with stretching, then a warm-up, then some cardio, then weights, then a cool-down, this would be your "workout routine". It is a set or regular group of activities and you consistently perform them in the order stated.

Routines are simply the behaviours we enact in the same order each time we assume an activity. Many families will have full daytime routines and bedtime (or napping) routines. So if your regular course of action is that you wake up, get dressed, get the kids dressed, get breakfast, go to the park, go to the library, have lunch, nap, free play time, get dinner, and then get ready for bed, you've got your daytime routine. Your bedtime routine might look like this: bath, get dressed, story time, nursing, lights out.

Despite this being relatively simple, many parents make two 'mistakes' when it comes to routines. The first is that they don't create the routine with the child or children in mind. This means that they often meet

resistance with the elements that are in conflict for the child. For example, a child for whom reading stories gets them energized is probably not a candidate to have a story right before bed. Despite it working for many families, it's not something all families should add to their particular routine. I've heard many parents complain about how their bedtime routines do not lead to sleep, and that they are regularly up for hours after the routine has finished. One of the possible reasons for this is that the bedtime routine is not meeting the needs of the child.

This is precisely why I can't stand the advice that some of you give that includes set routines. There is not a single routine that will work for every single child on this planet. In fact, I don't think there's a child for whom the same routine will work for the entirety of their childhood. Children are constantly changing and growing and with that comes new needs, new reactions to things, and thus, new routines. Even if you offer different routines for different ages, they are still not based on the needs of the individual child.

Schedules

What we do we have for our definition of a schedule?

Schedule (n): A plan for performing work or achieving an objective, specifying the order and allotted time for each part. Let's go back to our initial gym example. You have your gym routine – what you do when you go to workout – but your gym schedule would be the exact times you expect to perform your routine and how long each part will take. For some, they may wake and ensure they hit the gym by 7am, do a 5-minute warm up, 20 minutes of cardio, 10 minutes of weights, and then a 5 minute cool-down. So your gym schedule focuses not only on what you will do, but when you expect these gym events to happen.

The first problem we have is that many of you may claim to promote 'routines' when in reality you are looking at a 'schedule'. Is there research to back up the use of a schedule in parenting?

Most research on schedules (or the lack thereof) and child outcomes has been done with parents who have shift-work, meaning that there can be immense interruption in the child's schedule[1], resulting in negative outcomes; but even within these studies, there are factors that both mitigate the effects, such as having a second parent at home while one is at work to take care of the child[2], and that may explain the relationship outside of the nonstandard schedule, such as increased parental stress[1]. Some of the other work I've seen cited has to do with children with Autism Spectrum Disorders who are known to require more structure in order to thrive[3]. Finally, most of this work is done with older children, preschool age and

above[1][2], limiting the generalizability to newborns, infants, and toddlers.

Even with all these limitations, there's also evidence that schedules that don't leave room for flexibility and free time, and thus don't aid a child's socioemotional development[4]. Therefore the idea that our newborns require a schedule is not quite as clear as you would like parents to believe. And this difference between a schedule and routine becomes critical. Most of us don't *naturally* follow a strict schedule, but we do naturally fall into a routine without really trying. However, with young infants, this often falls to the side as developmental leaps and changes in our babies requires massive amounts of *flexibility* for parents in order to help babies thrive. We can now turn to the two areas in which you promote schedules and why these areas are not only not helpful for infants, but downright detrimental.

Sleep Schedules

There is no debate from me that babies need sleep – it's why they sleep an average of 20 hours a day in the beginning (though this is highly variable, with some healthy newborns getting 14-15 hours a day of sleep total). I know this is where many of you will come out swinging because there are articles out there touting the ill-effects of sleep problems, including night wakings, and how things like offering comfort only 'hurt' the child *with respect to sleep in the short-term* (e.g.[5]). Now, this is typically in reference to advocating for crying-it-out at night and working towards getting babies to sleep through the night early, despite the fact that as humans we are not biologically predisposed to that (for a review of mammalian feeding patterns and how it affects sleep, see[6]).

In fact, night wakings have never been a part of the Diagnostic and Statistical Manual of Mental Health Disorders under Sleep Disorders[7] because, although they may inconvenience parents, they simply aren't real 'problems', particularly in infancy. But what of the research linking night wakings to behavioural problems? First, it's non-existent in infancy. You heard me: No (credible) research finds long-term problems associated with night wakings. As for older children who experience frequent and problematic night wakings, let me say this: Third Variable Problem. In all of this research, parents who report 'sleep problems' also tend to report negative affect surrounding their child[8] (which improves with sleep training). In contrast, in non-referred parents (i.e., those who have not sought help for their children's sleep and do not see it as a problem, *even when the waking is the same as the referred parents*), positive mother-infant interactions and dyads are related to *greater* night wakings, yet the night wakings are not deemed problematic and there are no behavioural repercussions associated with them[9]. In short, the evidence surrounding the notion of 'sleep problems' in infancy is based solely on parental-report

of problems and seems driven by the unrealistic and non-biological expectations placed on babies (and thus mothers who are expected to return to work early, continue caring for the house and others as they were before, and so on, but that's a topic for another day).

Despite this, some of your programs dictate scheduled sleep with naps and night sleeps lasting a specific, set amount of time, regardless of whether or not this works for a given child. Let me start by asking you this: How do you feel if you're not tired and are forced to lie in bed (usually alone)? Do you get restless and find it even harder to fall asleep? And how about when that alarm goes off to wake you up and you're very clearly not ready to get up? Tired and groggy for most of the day (or at least until you've had your morning cup of coffee)? Even if you go to bed at a 'reasonable' hour, if you can't fall asleep right away because you're not tired, getting up 8 hours later still sucks because you've probably only slept 5-6 hours. Guess what? *The same thing applies to babies.* Forcing a baby to stay awake when they're tired or go to sleep when they aren't is detrimental to the development of healthy, *long-term* sleep patterns. Infants' sleep-wake cycle take a while to develop and you do them no favours by trying to rush this. In fact, there is some evidence that doing so could actually put a baby at a greater risk for SIDS. In one study, only brief periods of sleep disruption (not natural, infant-based sleep 'disruptions', but intentional ones) were given to infants aged 7 to 18 weeks and cardiac effects were measured[10]. The authors found that by simply delaying sleep 2 hours *just once*, cardiac (heart) responses during sleep were altered in ways that could be related to SIDS. Further, one review[11] examined the evidence on sleep disruptions and SIDS and although there has been no research to determine causality (as this would be highly unethical), there is research suggesting that 'abnormal' sleep disruptions (i.e., parent-led, not natural wakings) decreases an infant's arousability, which has been linked to a greater risk of SIDS. Therefore, you should be quite careful to suggest that parents unnaturally rouse their young infants at a specified time, or that parents should keep their infants' awake until a certain time, whether that time is dictated by the clock or some other means. Natural wakings will occur and natural sleep-cycles will develop, but it is not our job to rush these processes.

Breastfeeding Schedules

For some reason, the antiquated notion of feeding a baby every 3-4 hours remains in favour for many of you, despite the fact that it's no longer a recommended practice by lactation consultants (or even many medical professionals, or at least governing medical agencies). Importantly, the reason it fell out of favour was that it was found to have deleterious effects on the breastfeeding relationship and to baby's health, which we will review

here for the benefit of your education.

The effects of scheduled feeds on babies are well-documented. First, there is the effect on weight gain, with infants fed on-cue gaining significantly more weight than infants fed on a schedule. One such study examined weight gain in the first week of life in a very large cohort over a week's hospital stay post-birth[12]. Three groups were considered: 4-hour feeds, 3-hour feeds, and on-cue feeding. Comparisons were made between small, medium, and heavy babies in order to account for the natural differences that would occur based on the baby's size. The findings? As stated in the article, "The rate of gain is unquestionably greater with the self demand babies" (p. 99). In many cases, these "self demand" babies were *more than doubling* the gain of the 4-hour scheduled babies and sometimes even doubling the gain of the 3-hour scheduled babies[12]. A second Japanese study found that cue feeding was associated with lower weight loss post-birth relative to infants fed on a schedule[13]. (Some of you may cling to one study that I have seen cited as suggesting no difference between scheduled feeds and cue feeds to support your position of scheduled feeding. In this particular study, no differences in growth from birth to 6 months were found based on type of feeding. *But...* in both groups, the dominant form of feeding formula feeding which has a very different composition than human breastmilk and *should not* be used to form any basis of advice for breastfeeding[14].) An infant's health is also affected by feeding schedules via a reduction in meconium passing[13] as well as higher bilirubin levels[13][15], the by-product that results in jaundice. This means that infants who are given a scheduled feeding are more likely to develop jaundice than those who do not. In fact, one 'expert' book faced backlash from the American Academy of Pediatrics because the scheduled feeding advice was found to relate to failure to thrive in several infants. Do you still think scheduled feeds are a good thing to promote?

The effects of scheduled feeds also extend to the breastfeeding dyad; that is, the breastfeeding relationship between mothers and their infants. In Norway, certain practices were instituted in the early 1970s in order to facilitate greater breastfeeding rates, of those were the use of cue feeding, as opposed to scheduled feeds, and this, along with other practices, led to an increase in breastfeeding rates by the early 1980s[16]. The aforementioned Japanese study found that on-demand breastfeeding led to infants receiving more breast milk on days 3 and 5 postpartum[13]. Even when scheduled feeds were the norm, researchers realized the direct link between the number of feeds and a woman's milk production. Back in 1961, an article was published with data on how increasing the number of feeds during the day resulted in a parallel increase in milk supply for women, though it took 48 hours before the increase was noticed[17]. None of this even addresses the issues for babies on a growth spurt who typically require extra

nourishment in order for their bodies to grow properly.

More generally, people have researched the high prevalence of breastfeeding problems found in industrialized and developed cultures and found that the common denominator is that we promote “nonbiological breastfeeding patterns”[18]. The scheduling of feeds and reduction in night-time feeds do not match what humans are biologically predisposed to expect. Thus, there is little surprise that women’s milk productions suffer as a result, resulting in a loss of milk and either a supplementation with or full switch to formula use. Another review on breastfeeding concluded that many of the problems women face in developed nations with respect to breastfeeding stem from the arbitrary rules placed on breastfeeding, including scheduled feeds, and breastfeeding success would be much greater without these rules[19]. The authors of the review argue that research shows that breastfeeding works best when there are no prescriptive practices in place for it. In line with this, another study found that a mother’s ability to be flexible in her feeds and thus feed when the infant needs it – on-cue, not on a schedule – was related to breastfeeding success, both shorter and long-term[20].

In sum, scheduled feeds went out of practice for a reason—namely, they can harm baby and have been consistently associated with problems breastfeeding, something we know to be a problem in industrialized societies. The only reason left for them is somehow to convenience the mother, but if she ends up unable to breastfeed as a result, how convenient was it?

Conclusions

There is nothing wrong with promoting a generalized routine. Having a bedtime routine where you bathe and read to your infant prior to feeding them for sleep is harmless. Knowing how your day will generally go is harmless. But when you tell parents that they need to dictate their days down to the hours we start to see problems, and it should be no surprise. Babies aren’t meetings or appointments, they’re *people*. People who are rapidly developing and changing, especially during the first few months, and with this change comes rapidly changing needs as well. Trying to force your child to eat and sleep at particular times ignores their individual needs. In a quest for fame and fortune, you forget that no two babies are the same. Furthermore, in pushing schedules, you remove one of the most important elements of parenting: Letting parents get to know their babies and enjoy the time they do spend with them.

PART II: SLEEP TRAINING

LESSON FIVE: THE NEWBORN ‘SLEEP PROBLEM’

So here we are, ready to discuss the crux of why so many families need to be sleep training their little ones: the “newborn sleep problem“. I was personally unaware we had a newborn sleep problem at all. I thought newborns did what they do—namely wake—and then we feed them, respond to them, and they return to sleep. Over and over again. For most people this takes up a good chunk of the day with their newborn and slowly, with time, it changes and becomes less invasive, but how long that takes depends on the individual child. Now, I admit I had kind of hoped that you might have been referring to the fact that some babies seem to have severe problems sleeping, and that you would help parents understand that this rarely has anything to do with sleep per se but rather other health or feeding problems[1]. (As an aside, the review, [1], also found that all types of sleep training in the first six months were not only ineffective when systematically studied, but also raised the risk of other negative outcomes.)

But no. Sadly you experts *really* seem to believe that newborn sleep is inherently a ‘problem’. In fact, it seems that there are three main problems that you focus on: parental sleep deprivation, the development of ‘bad habits’, and the issue of self-soothing. Unfortunately, in order to make your points, you all tend to use what you accuse others of doing when they provide information about sleep: Scare Parenting. You suggest that parents can do as they see fit and you don’t ‘judge’ them, but then turn around and inform them that they will forever ruin their child if they don’t follow your way. I think we should therefore take a look at these so-called problems one by one, followed by a bit of information about the reality of newborn sleep and some of those scare tactics you like to use as well. Let’s begin...

'Problem' #1: Parental Sleep Deprivation

You've all told us these stories a million times, but one from the *Newborn Sleep Book* will be highlighted: A mother and father of a three-month-old are in your office talking about the severe sleep deprivation that has come with their newborn. Neither is sleeping more than three hours a night and they are desperate for help as the last time the mom was feeding in a rocking chair, she came to as her baby was slipping out of her hands towards the ground (but she caught him, so know that everyone is okay). Cue the need for sleep training...

I have to admit that at this stage I was thinking of the laundry list of things to get checked out with respect to feeding problems or medical problems. I would want to know what was happening at night that led to such little sleep. The idea of nursing in the rocking chair signals they had likely put their baby in another room and mom was having to get up each feed. I would have at least recommended room-sharing as an option so she could just lift baby into bed to feed then put him back again. However, this isn't about what I would do, but rather what you experts all end up doing: Instead of looking for *the reasons* behind what seems to be severe sleep disruption (instead of the usual sleep deprivation that comes with being a parent), you immediately recommend sleep training. In fact, most of you don't even acknowledge the potential influences of other health problems on sleep and if you do, it's often a gloss-over with repeated mentions of how rare it is. And the idea of feeding problems? Not even mentioned by most of you, yet in a society whereby feeding schedules are suggested, feeding problems tend to be the main culprit.

The story serves to illustrate two main problems: First, that you are ignoring the fact that severe sleep disruption is often a sign of something wrong instead of being the 'something wrong'. There is quite a bit of research out there on the causes behind significantly disrupted infant sleep; these causes include food allergies[2][3][4], breastfeeding issues[1][5], reflux[6], sensory processing disorders or sensitivities[7], and other medical conditions, including Autism Spectrum Disorders[8][9], and more. The failure to even suggest or look at these before promoting sleep training is, in my opinion, astonishingly negligent.

Second, the story is one of these scare tactics. You take a rather extreme case of one family's sleep deprivation—likely caused by one of the aforementioned problems—as an example of what regular sleep deprivation looks like in most families. You use these examples to scare families into thinking that if they aren't at this stage now, they certainly will be. This scare tactic paints a picture of typical newborn sleep that is unfounded and extreme which makes sense if your goal is to sell books, but not if your goal

is being honest and helping families and babies.

On this issue of helping families, let me add how sick I am of hearing the common rhetoric that families will be happier and warmer by being well-rested; that the push for sleep training comes out of a place of love. Perhaps you truly believe this, but have you considered that the alternative implication is that families who don't sleep train will not create or retain as many of these warm memories? Do you see the scare tactics being built-in? Let's examine the veracity of such a comment: According to research[10], parent-centric parenting (what you all propose) is associated with:

- (a) *More happiness* in parenting than those who are relatively more child-centric?
- (b) *Equal amounts of happiness* in parenting than those who are relatively more child-centric?
- (c) *Less happiness* in parenting than those who are relatively more child-centric?

I imagine you want to answer (a) as it fits your theories and the reasons you are using the scare tactics, but it is not. In fact, (c) is the correct answer. I suppose, then, that the idea of responding to your child at night is not, in fact, a 'problem' anymore, is it? One down, two more to go...

'Problem' #2: The Development of 'Bad Habits'

One of the usual viewpoints many of you experts try to pound home is that this 'on-demand' parenting is really just a code-word for 'bad habits'. You go so far as to say that if a child isn't sleeping through by five or six months of age (some say three months) a parent is in deep trouble because it's hard to undo months of 'bad habits'. On-demand breastfeeding is described as "misguided" and "unhealthy", but the worst-case scenario of "bad habits"? Bringing your baby to bed with you. (Cue scary violin, horror movie music.) (Now, in all fairness, some of you have finally acknowledged bedsharing as something that can work for families, but most of you still cue the horror music to prepare parents for it being a really, really bad idea.)

The proposal that you need to sleep train from the start implies that the habits instilled by training are the only 'good' habits that you, as parent, can do. Will crying be involved? Of course, but you suggest it's just a small amount of crying in the grand scheme of things. After all, you can have a few weeks of it or years of it, right? You tell us parents it's our job to teach our children the way of the world; or rather, make them know that they will not be catered to. Let me throw out here that I have written on this fallacy of teaching a baby 'the way of the world', but for the time being, I urge you to consider the following quote from the wonderful L.R. Knost:

It's not our job to toughen our children up to face a cruel and heartless world.

It's our job to raise children who will make the world a little less cruel and heartless.

Let us take a look at what we *really* have here when we talk about 'bad habits'. First and foremost is the evidence. Some of you argue that on-demand feeding is a bad habit because it's "unhealthy" when in fact the evidence tells us the opposite. Scheduled feeding for infants is thought to be the real link between formula use and greater incidence of obesity[11], increased risk for cognitive deficits (including generalized intelligence) later in life[12], increased risk for jaundice in the first weeks of life[13], and increased risk of failure of the breastfeeding relationship[14]. "Unhealthy"? Hardly.

What about things like later bedtimes, rocking or nursing to sleep, and bedsharing? Well, later bedtimes are found in various cultures around the world[15] with children who are healthy and well-adjusted in infancy and beyond. Most Asian countries have infants and children who go to bed significantly later than their Western counterparts, likely due to the co-sleeping arrangements that are more common. Importantly, the research on bedtimes has found that children who go to sleep later often sleep in as well[15] and as one researcher has spoken on, the timing of going to bed is largely irrelevant so long as an individual's biological pattern is being respected. Specifically, when a baby (or child or adult) whose circadian rhythm calls for a late-to-sleep and late-to-wake pattern is put to bed early, the quality of sleep is diminished.

Rocking or nursing to sleep are also behaviours that are entirely normal and have a biological basis (why babies respond to them so well). Babies find the proximity (of rocking or nursing) to a parent to be highly comforting (and I know you'll pull out the 'self-soothing' thing, but we're getting there – hold on) and can help regulate them physiologically[16]. The movement from rocking is soothing to many newborns as it's reminiscent of the womb-like environment where movement was ongoing. Nursing to sleep is as old as human history and for good reason: Nighttime breastmilk contains tryptophan, which is not only a sleep-inducing amino acid, but is essential for the neural development of serotonin receptors[17], which are needed to establish sleep-wake cycles naturally and organically[18], and serotonin synthesis[19]. These behaviours, far from being 'bad habits', have evolved as normal nighttime behaviours because they serve important functions for our young babies (and older infants).

Now what of bedsharing? As I mentioned, for most of you, this is the worst-case scenario of bad habits and will ensure your child will never leave your house and if you want them to go to college you'll have to follow along to continue bedsharing with them. There's only one small problem: Bedsharing, when done safely, is *totally, utterly normal*. In fact, many cultures

around the world regularly bedshare and have healthy, well-adjusted children, including in many Scandinavian and Asian countries (for a review, see [20]). In fact, even in a Western context, research looking at long-term social, emotional, and cognitive outcomes based on bedsharing found no differences between those who were bedsharers (even for extended periods) and those who were solitary sleepers[21][22][23].

In the spirit of full disclosure, I should be clear there was *one* exception: One study found that planned bedsharing (as opposed to reactive bedsharing, or bedsharing done in response to pre-existing sleep problems) was associated with *greater* self-reliance and social independence[24]. ‘Bad habit?’ I think not. Now, this does not mean it is for everyone, and for a complete examination of the myriad issues surrounding co-sleeping (including physiological synchrony, culture, SIDS, and more), I recommend checking out the work of Dr. James McKenna (e.g., [25]).

In addition to the scientific evidence not backing you up on this whole ‘bad habits’ stance you seem stuck on, there is the very erroneous assumption that simply because a baby does something, that something will continue forever. This seems to be the cornerstone for the ‘newborn sleep problem’ that you all propose. I see it in the argument against on-demand feeding in the argument that if you don’t schedule food right away, babies will become adults who are gluttonous pigs. Babies who need to be rocked to sleep will forever not sleep without being rocked. Yet it simply makes *no sense*. We are humans and we develop over time, and with development we change; what was a need at one age will fade away at another while a new need emerges. The only constant in life is that we need love, care, and to feel safe and secure, and those are things that come from *responsive* parenting.

So... two ‘problems’ down and one to go.

‘Problem’ #3: The Issue of Self-Soothing

Before I share summaries of some already written pieces on the topic that I recommend you read in full, let’s take a look at the type of Scare Parenting you seem so fond of. Some comments about ‘self-soothing’ from some experts:

“A sleepless infant might have trouble self-soothing later on in life—might be a less well-adjusted person.”

“Self-soothing is one of the earliest and most important independence milestones that a baby must reach.”

“Children who never learn to self-soothe tend to struggle with future milestones of independence, such as sleeping alone, potty training, parental separation, and beyond. Then before you know what happened, that child is reaching a milestone you never

anticipated: being cast on Bravo's Princess: Long Island."

Quite the damning comments, yes? Think you might be scaring parents into thinking that the only way to learn 'self-soothing' is by being sleep trained?

As I'm sure you can guess, this one also falls in the completely untrue pile. There are three long and scientific responses to this notion of self-soothing that I'm going to share here with some key highlights, though I really think you owe it to yourselves and any future client/patient to reach them thoroughly yourself. I'll start with my own simply because I know it best and you can read it in full later in this book then move to a few other pieces that are notable in their thoroughness of the research behind self-soothing.

Educating the Experts—Lesson Eight: Self-Soothing (this book). The take-home point here is that the idea of self-soothing is really another term for emotion regulation. It is definitely a goal that we have for our children, and an important one at that, but what does the research say about it? Well, it says that emotion regulation is a skill that is learned over years and that it develops by being modeled by those who care for us, not by us just figuring it out. You may say you tell parents to 'teach' their child self-soothing by shushing them when they cry and walking with them instead of nursing them as they request, but this ignores one of the other key points: our actions have to be developmentally appropriate. Babies don't have the neurological capability to understand you are showing them means of handling distress. They just know they're hungry and you won't feed them.

Furthermore, responsiveness is critical to the development of regulation of negative emotions specifically. Responsiveness here is not only to acknowledge the feeling, but to comfort and to remove the source of the distress, when possible. If parents are not responsive when their child is in distress at night—presumably under the guise that they will be better parents and warmer as well-rested parents as you suggest—they will have missed out on opportunities to respond and respond sensitively to their infants. The impact of which will be dependent on many variables, but if a child survives with no harm, it will be *in spite of* their nighttime parenting, not because of it.

Self-Soothing. Possibly the Biggest Lie Ever Foisted on Parents, by John Hoffman. This piece is just plain wonderful, so I strongly recommend you read it in its entirety; however, in case you don't here's the breakdown... First, Mr. Hoffman is in the unique position to share, from the horse's mouth, what "self-soothing" was meant to represent from one of the researchers who coined the term. Dr. Thomas Anders, said

researcher, writes that the term was used *just to contrast it to signaling and that he does not imagine any active self-soothing is actually taking place*. Read that again. No active self-soothing is presumed to be taking place. Only now we have doctors, researchers, and parents assuming something that has not only not been shown to be happening, but the researcher who coined the term actively admits is not likely the case. At the end of this piece is a link to a follow-up piece about what self-soothing is and how it develops. In this second piece, you will find that based on the research into emotion regulation, or self-soothing, the process of sleep training actually can serve to *disrupt* the development of self-soothing instead of helping it. A must-read for anyone promoting sleep training for self-soothing purposes.

Self Settling – What Really Happens When You Teach a Baby to Self-Soothe, by Sarah Ockwell-Smith. The final piece – another gem – is from Sarah Ockwell-Smith, the author and founder of *BabyCalm* and *ToddlerCalm* and author of *The Gentle Sleep Book*. Through her programs, she too has worked with thousands of families and yet comes to some startlingly different conclusions than you on issue of self-soothing. Indeed, given hers is based on current research instead of scare tactics, one might say her opinion carries more weight. In this piece, she covers how humans handle emotion regulation in distressful circumstances (approach, attack, avoid) and how infant behaviours seeking comfort are actually highly beneficial and helpful to later emotion regulation. She covers the neurological development of the brain and the areas activated during sleep training, or teaching ‘self-soothing’, and how our idea of ‘teaching self-soothing’ can have later negative consequences on neurological development. Finally, she tells you what kinds of behaviours we know do lead to later self-soothing or emotion regulation, and what you are actually teaching your child when you think you’re teaching self-soothing.

I will say that if you can read these pieces, the science behind them, and still tell me that if you don’t teach your child to sleep through the night as a newborn that you’ll have a spoiled brat who can’t regulate on your hand, then we have a larger problem. Namely, your comprehension of what “scientifically sound” means.

So there we go: three ‘problems’ that really aren’t problems at all! But if we don’t have a ‘newborn sleep problem’, what do we have?

The Reality of Newborn Sleep

“Seven hours of uninterrupted sleep is an exceedingly achievable goal for a newborn. It is not only exceedingly achievable; it is exceedingly beneficial, for baby and parents alike.”

– The Newborn Sleep Book

As lovely as seven hours sounds to most new parents who often struggle with a mish-mash put-together of 5-6 hours a night for a period, it's just dangerous to be speaking in this way. These notions of sleeping through or sleeping long stretches before a child is biologically ready has consequences that you seem to ignore or gloss over. In many cases, delaying feeds is a critical component to trying to get a child to sleep longer, yet infants need frequent feedings and if one is breastfeeding, this type of schedule is absolutely not beneficial and can prematurely end the breastfeeding relationship.

Important to this feeding issue is the size of a newborn's stomach. The stomach of a newborn can hold a solitary teaspoon. When this is filled with breastmilk, which is easily digestible (more so than formula), this stomach is empty quite quickly. Even at one month, the infant stomach has a maximum capacity of between 2.5 and 5 oz. When that is full of breastmilk, it's also going to be emptied rather quickly (though longer than that of the newborn stomach). This is why breastfeeding has to be a consideration when talking about 'normal' infant sleep (and is therefore the entire topic of the next lesson). There is research that formula-fed babies sleep longer stretches from the start because of the longer duration of digestion[29], but even with that it rarely reaches a straight seven hours.

This push for extended sleep also ignores the reality of SIDS. Infants who are deep sleepers and sleep alone (or who are trained to sleep that way) look to be at a higher risk of SIDS[26][27]. This is why many doctors, midwives, and other care professionals recommend parents of deep sleepers wake them every 3-4 hours at night—not because they are sadists who want to see parents suffer, but because it may help keep these babies alive. Now you may argue that the absolute risk of SIDS is low, and you'd be correct, but this also ignores that this type of deep sleep may indicate a type of problem that would predispose the infant to being of higher risk for SIDS. Some research suggests that infants at high risk for SIDS may have an arousal deficit which results in longer sleep stretches and solitary sleep is one factor that may put infants at higher risk[28]. Co-sleeping (which is often dismissed, as mentioned above), for these infants, may provide a type of protection by increasing the number of arousals experienced. Yes, arousals, though disruptive to sleep, can actually be healthy for our infants.

Many of you speak of the children that are sleeping through at say, 4 or 5 months of age. In fact, in one study nearly 50% of infants were sleeping an eight-hour stretch at five months of age[30]. Now, most of you use this type of data to question what the other 50% are doing wrong when I would suggest you look at it in another way: Perhaps just 50% of kids are developmentally at a stage where they are ready to sleep longer stretches at five months. This also ignores that at later ages, this number often drops

again because normal development also includes sleep regressions.

The use of this type of data to suggest half of the parents are doing it wrong suggests the same problem as discussed in the ‘bad habits’ section: The assumption that because a baby is doing something at one point, he will continue to do it forever. Or in this case: Because he is doing something later, he should be able to do it earlier. If this were the case, we wouldn’t have “development”. We would come out ready to do all the things we are supposed to.

But we don’t.

A baby at five months has had five months of a growing stomach capable of holding more milk to allow babe to sleep longer as well as a naturally developing circadian rhythm. For many infants, that may be enough to develop a sleep-wake cycle that allows longer stretches of sleeping through (until the regressions hit). However, research has found that it can take *up to nine months* for the basics of the circadian rhythm to develop[31]. Not only that, but even children at 3 years of age may not show the normal diurnal patterns that adults do[32] – this development is so highly individual that to make any declaration of what infants or children “should” be doing or are “capable” of doing ignores the evidence that such statements have no basis in fact.

This last sentence is the key point here: What is ‘normal’ is so variable that to hold one child to another child’s standard isn’t biologically or scientifically suggestible. In short: Newborns don’t inherently have a ‘sleep problem’. In fact, infants in general don’t have a sleep problem because they are infants. Now, some *will* have a problem, and it’s why there are resources out there to help families when facing certain problems (see the Resources chapter at the end for suggestions). Sleep training a newborn is NOT a solution to any problem, especially a problem that doesn’t actually exist. It is even more distressing to see it promoted as a “preventative” technique. If you truly value the well-being of your clients, you’d do well to continue to educate yourself on the biology of infant sleep and feeding so that you can truly help families that need it.

LESSON SIX: SLEEP TRAINING AND BREASTFEEDING

One push that is happening on a societal scale (in most Western countries) is the push to increase breastfeeding rates. There are good reasons for this from a public policy perspective (for an analysis looking at the United States of America, see [1]), but one problem that seems to arise when it comes to exclusive breastfeeding is that breastfeeding and extinction sleep training (the type most often advocated for), *do not* go hand in hand. Yet for many of you experts, your thoughts on the matter seem to ignore this reality or you remain steadfastly breastfeeding-unfriendly. In this lesson, I tackle the common misconceptions you seem to have about breastfeeding, breast milk, and what it takes to maintain a breastfeeding relationship. To make it easier to follow, I've decided to tackle these misconceptions one statement at a time in hopes that you can see how your recommendations fail to consider many important factors that breastfeeding mothers have to consider when looking at sleep training and the maintenance of a breastfeeding relationship. Hopefully you can then understand why parents looking to keep their breastfeeding relationship should take your advice with a truck-full of salt.

Statement #1: “Formula and breast milk are equal”

I want to first point something out here: we're talking about two substances here, not two methods of feeding which involve far more than just the substances. When we talk about formula feeding and breastfeeding, many other considerations need to be made in order to establish what will work best for a given family. However, I have read some of you suggest that there is actually no difference between the two *substances*. This is patently

false.

It seems all that should be necessary here is to look at the list of ingredients for each product with the knowledge that we still don't actually *know* all of what is in breast milk, but what we do know is that there are a heck of a lot of things we have identified in breast milk that are important to child health and development that are missing from formula. Somehow, despite having access to this information, this isn't enough for you, possibly because some of you used formula yourselves or perhaps because you don't fully understand or keep up with the research on breast milk. Because of this, I think it's important that we take a look at some of the differences research has highlighted when talking about formula versus breast milk. I will focus here on only the highest quality studies or ones that looked explicitly at contents of the substances so that we don't fear the confounding effects of variables like socio-economic status (an important variable, but one that has received too much press as of late whereas other methodological considerations that bias studies towards no difference have received none).

- Breast milk has been found to contain certain long-chain polysaturated fatty acids, namely docosahexaenoic acid (DHA) and arachidonic acid (ARA), which are implicated in neurological development and the development of Autism Spectrum Disorders (ASD). Some formulas now include these and their inclusion lowers the risk of developing an ASD, though it is still higher than for those babies who receive breast milk.[2][3]
- Research has found a 12-24% risk increase for childhood leukemia based on whether a child has received breast milk or not. The numbers vary based on duration of breastfeeding with the largest effects holding for those who breastfed beyond six months. Sadly, exclusivity of receiving breast milk could not be examined as most infants were at least mixed-fed, but researchers believed this would also influence findings in favour of breast milk.[4]
- Receiving breast milk has been found to have long-term effects on IQ, education, and income in a sample of Brazilian families where breastfeeding was *not* stratified by socio-economic status. Though it is possible to argue that these findings are due to greater nurturance by those families who breastfed at all (nearly all families were mixed feeding), there is other research that supports these findings and research on the possible biological explanations for these differences by feeding method.[5][6][7]
- The most recent World Health Organization (WHO) meta-analysis covers certain long-term possible outcomes associated with breast milk and found effects of breastfeeding on blood pressure, obesity,

and intelligence. Notably, there is the possibility of residual confounding for each of these and these focus only the *long-term* effects, but as of the current research, the effects hold.[8]

- Of course, there are also the immediate effects on baby's health in the first year, which include lower rates of a variety of diseases, and the effects of breastfeeding on maternal health, including lower rates of various cancers.[1][9]

Perhaps you still think these two substances are equal in which case you should question whether or not you should not be offering any type of health-related advice to families. If not and you acknowledge the differences between breast milk and formula, your promotion of formula becomes particularly disingenuous, especially, as we will see, as it serves only to feed misguided notions about infant sleep and what parents should expect from their babies.

It is important to point out that these findings *do not* mean that parents *shouldn't ever* use formula. For some families, it is the best choice for them 100% of the time or 50% of the time or whatever they choose; however, when 40% of women turn to formula *not* because they want to, but because a system and their caregivers failed them[10], we need to see a change. Though there are a lot of “booby traps” that affect a woman's likelihood of successfully breastfeeding, the stories that you subscribe to about formula and infant sleep are one of the most powerful ways in which families begin to believe that these two substances are equal and that only one will help them achieve the cultural (but not biological) ideal of uninterrupted sleep[11][12].

Statement #2: “Only feed your baby on a schedule”

Although the idea of scheduled feeds was discussed in Lesson 4 (Schedules), it deserves a second discussion here because it is *so very detrimental* to the breastfeeding relationship, though it is often touted as being “necessary” for sleep training. Although there are outcomes of scheduled feeds that are universal to any infant feeding, such as an increased risk of lower intelligence[13] and infant obesity[14], the main effects on the breastfeeding relationship are what is relevant herein. I have read many a baby training book and most of you tend to suggest that you can safely put your baby on a feeding schedule with no negative effects on the breastfeeding relationship. Some of you even suggest parents can do this starting right at birth. The problem? There is *no evidence* that supports this idea at all. In fact, all the research we do have suggests *increased risk* to the breastfeeding relationship through the loss of the mother's milk supply in the face of scheduling feeds[15][16][17]. This should be no surprise

given that we have not evolved as a species to feed on a set schedule; rather we have evolved to feed on-demand, day *and* night. In fact, when we look at the breastfeeding problems facing women in industrialized nations versus those in more traditional societies (who adhere to a more biological or evolutionary norm in terms of cue-feeding), we see they are unique to us. When we follow biology, breastfeeding (and sleep) can become much easier for all involved[15][18].

One of the key elements of evolutionary or biological breastfeeding is the role of the nighttime feed, something that is inherently cut out when you feed baby on a schedule that is intended to lead to young infants “sleeping through the night”. (I put this in quotations because in the research, this idea of “sleeping through the night” was originally defined as a 5-hour period between midnight and 5am, not the more typical idea of a 12-hour period that is now commonplace thanks to you “experts”.) Perhaps even more than feeding on a schedule during the day, the cessation of nighttime feeds has effects on the breastfeeding relationship *and* infant sleep.

The first effect is to do with milk supply as night feeds help to maintain or increase the supply as needed[15][19]. When this is removed and infants are unable to nurse on demand at night, supply diminishes and moms can end up struggling during the day to keep up producing the amount of milk their babies need. This leads to supplementation or even the failure of the entire breastfeeding relationship.

The second effect is on what is known as the period of “amenorrhea”, or the time when mom is not ovulating (and thus menstruating). When we look at natural spacing in societies that encourage biological or evolutionary breastfeeding, children are rarely born less than two-to-three years apart[20], and this is in large part because of breastfeeding. On-demand, nighttime feeds help ensure mom’s body does not jump back in to thinking it’s ready for another baby too soon and evolutionarily this makes a lot of sense given the way pregnancy taxes mom’s body and maternal resources are necessary for the first few years of life[21]. Women looking not to be overburdened by children can use biological breastfeeding as a means to help control fertility.

Finally, the third effect is on the hormones that help elicit infant sleep. Nighttime breastfeeding doesn’t just provide baby with nutrients, but actually serves to *help* baby sleep and develop a diurnal circadian rhythm[22]. Specifically, nighttime breastmilk has been found to contain high levels of tryptophan, a sleep-inducing amino acid, which also promotes serotonin synthesis[23][24] and the production of melatonin, which is found in greater quantities in nighttime breast milk[23][25]. Why is this important? Serotonin is necessary to the development of the sleep-wake cycle[26] while melatonin signals that it is nighttime, also helping regulate

sleep and the sleep-wake cycle[27]. Indeed, children who do not make enough serotonin or melatonin end up waking regularly and sleeping poorly and often require the use of supplements to aid their sleep[27], thus the nursing that occurs at night is one way to help baby get enough of these amino acids which aid not only in synthesis, but actually the development of serotonin receptors. This is also why breastfeeding babies often fall asleep quickly again after a feed in the middle of the night, being up for less time per awakening than babies on formula[28].

Dr. Helen Ball, of Durham University in the UK, has extensively studied the interplay between breastfeeding and sleep and consistently finds that the way in which the human infant digests human milk simply is not compatible with scheduled feeds and long bouts between feedings (for reviews, see [29] and [30]). What's important to note here is that this does not mean *all* breastfeeding relationships will suffer and this is where people tend to get confused and where you trainers take advantage of most people's lack of understanding of science to push your own agenda. (Or some of you actually lack the scientific understanding yourself, perhaps even sadder as you tout yourself as "experts".) The science on scheduled feeds speaks *in generalities* to families and mother-infant dyads; this means that there will be mothers for whom they can schedule feeds, maintain a full breastfeeding relationship, and suffer no harm. *But they are the lucky ones.* I'm sure most of you could tell your clients that you know someone who smoked for years and years and never got cancer – after all, most of us do – but you would hopefully acknowledge that this person was playing a risky game with respect to their health as research shows us that the risks of health problems associated with smoking are real. The same can be said for the breastfeeding relationship: Telling parents they should schedule feeds is akin to telling them to play Russian roulette with their breastfeeding relationship. Even if seven out of eight times it turns out okay (and this number would be high given the number of "failed" breastfeeding relationships reported by mothers), it's a risky game that we wouldn't condone much less promote in other areas of our lives.

Statement #3: "Your baby will get more sleep with formula"

Luckily not all of you actually state this explicitly, but I have read it explicitly in a few books whereas the rest of you tend to subtly suggest that it's okay for a mother to switch to formula to get longer stretches of sleep, even if you don't openly advocate for it. Recent research tells us that this is a line that many parents who sleep train and use formula have bought into[31]. The problem? It just isn't true. In studies that compare the amount of time an infant sleeps based on feeding method (formula versus breast milk) there isn't any difference[32] and, in fact, breastfeeding is often

associated with *better* sleep for parents[22] (when done in an evolutionary manner which includes some form of co-sleeping to keep the infant close).

Why does this myth persist (outside of you perpetuating it)? I think the issue lies in the realm of control, or rather that becoming a mother means losing a lot of control and this is one way to regain it. I have read more than one of you state that a benefit to using formula is actually being able to measure how much an infant is eating. This plays into the notion that parents *must* be in control of all elements of their child's life. It also tells them that if baby has had X amount of formula, crying can't be hunger and thus can be ignored (even though this dismisses the myriad other reasons our infants cry; see Lesson Two on Needs). In fact, your entire premise is based on the issue of control and trying to sell that control to parents. Yet as found in one systematic review of the research, cue-based care is consistently associated with better outcomes for babies *and* parents[33]. You may be able to sell parents the *illusion* of control, but just as telling them that formula will help them sleep longer, it's just an illusion with no basis in reality.

Statement #4: “Your child must sleep alone”

One of the things that is abundantly clear in nearly all of your expert books is a very clear statement against bedsharing. To hear it from you “experts”, bedsharing is the start of a horrible path that will lead to more problems than you can shake a stick at. Interestingly, most of you acknowledge that of course a child will *want* to sleep with a parent due to the warmth and snuggles that it would provide, yet somehow you all view this as a *negative*. After all, how dare our children be given warmth, feelings of safety, and love *at night*?!?

For the breastfeeding mother, this poses a larger problem than for a formula feeding mother in that breastfed babies wake very regularly to feed and if mom is not close to baby then there will be a lot of ups and downs in the middle of the night. Of course, you all seem to realize this which is why you *also* propose the sleep training you do. If you actually accepted the infant's biology and needs as valid, you would realize that keeping mom and baby close is essential for the breastfed baby. As Dr. James McKenna calls it, “breastsleeping” is as old as human history and is the way that most women are able to successfully breastfeed their babies[34].

So why are separate sleeping arrangements and sleep training possibly problematic for the breastfeeding dyad? The primary reason is that it risks sabotaging *either* breastfeeding *or* mom's mental health. You see, in order to handle the degree of night wakings that come with breastfeeding (which is, as stated earlier, more readily digested than formula), mom has to get up and stay awake whilst feeding her infant (falling asleep in a chair or on a

sofa is highly dangerous) and this causes massive interruptions to her sleep and thus mental health. Let's look at how this would play out:

Baby, hungry, starts to root around looking for the breast. Videos of infants sleeping shows us that this is the first stage of seeking food even though the baby is actually not fully awake[35]. However, not being close to mom, baby either has to give up or, if really hungry, fully wake up to signal (cry) to mom. Now baby is wide awake and distressed. Mom, hearing her baby cry in the other room, has to fully awaken to get out of bed and go tend to her child. Because she isn't bedsharing, she must feed her child in the other room, probably sitting in a rocking chair, and must ensure she stays awake for the entire feed and until her infant is asleep again. Falling asleep in this position would be highly dangerous. Now mom has been awake for an extended period and has to get herself back to sleep again before repeating this process again, likely in 1-3 hours.

What kind of sleep do you think mom is getting? Not a lot and this is likely the problem for many of the families that come looking for sleep training: They are put in an impossible situation and need to do *something* to get their sanity back. Only now the solution is either switch to formula to take turns at night or sleep train. Both of these are linked to a significantly increased risk of losing the breastfeeding relationship, as previously discussed. Schedules and the use of formula are two key predictors in lowering milk supply and thus, resulting in problems for breastfeeding (see Statements 2 and 3 above).

It is worth mentioning again that bedsharing or co-sleeping (not all co-sleeping is bedsharing) often *enables* mom to get more sleep as feedings become much easier and this is likely why it is a strategy for sleep that is used by many breastfeeding mothers[36]. To start, babies often latch before they've even woken up, allowing for a good feed without the screaming. Second, mom doesn't have to get up and try to stay awake for an extended period of time, especially once mom and baby master the side nurse whereby infants can latch on their own and moms often doze or sleep through the nursing session. Finally, being in sync with mom during the night can assist in getting baby onto the same sleep pattern, resulting in fewer long wakings at night (though there will still be waking or rousings for feeds and these should be distinguished).

Perhaps the icing on the cake (or the nail in the coffin against refusing all bedsharing, depending on your perspective) comes from preliminary research suggesting a link between bedsharing and attachment status[37]. Babies who never bedshared by 2 months of age were found to have a 50% increased risk for insecure attachment (any type) and a 74% increased risk for insecure-resistant attachment. This early research (which needs to be replicated and include other factors) suggests that by refusing to bring a child to bed who needs that type of comfort, one is actually creating a

clingier and more mentally distressed child. This fits nicely with some other research that finds a relationship between bedsharing and greater independence in children (e.g.,[38]), but may also reflect the unique needs of the breastfeeding dyad as responsiveness by a breastfeeding mother is often simply offering her child the breast. A mother who never brings her child to bed may be doing what most of you recommend: Trying to wean the baby off night feeds, yet this may also result in a failure to respond sensitively, leading to an increased risk of insecure attachment.

Conclusions

Although formula feeding has become the cultural norm in many Western, industrialized nations, there are unique needs for the breastfeeding dyad that are not only ignored by much of the sleep training advice offered, but quite possibly sabotaged. Making sure families are aware of the potential pitfalls of extinction sleep training while breastfeeding is essential if families are to make educated decisions.

LESSON SEVEN: “PROVEN SAFE AND EFFECTIVE”

To-date we’ve covered quite a bit on the practical issues surrounding your claims (e.g., infants have a “sleep problem”), recommendations (e.g., schedules, crying), as well as how your advice fails to address some of the more important practical issues for families, like breastfeeding. In this chapter we’re going to tackle one of the favourite statements that gets uttered to parents by doctors, in the media, and in your numerous publications. What is it? That your sleep training methods – specifically extinction methods like cry-it-out and controlled crying – have been “proven safe and effective”.

This statement is used to instill comfort in the parents who think that leaving their child to cry for minutes to hours as something akin to child abuse or neglect at the worst or just plain horrible at best. “It’s safe!” = “Don’t worry!” and without this claim you would likely face immense backlash against your proposed methods. The question is, how much truth is there to this claim? Has extinction sleep training really been *proven* to be “safe” *and* “effective”? I think all parents deserve to take a good look at the veracity of this claim and I think you need to take a look as well, so here we go...

What is “Safe”?

First we have to define what it means for something to be “safe” for it can be defined in many ways. For example, bungee jumping is “safe” in that your risk of death is minimal, though many would argue that the pressure on the brain falls outside the realm of “safe” in terms of the effects on eyesight[1], whiplash injury[2], and even the slight possibility of stroke[3].

Whether bungee jumping has been proven to be “safe” thus depends on your definition. However, we know the *risks* are such that we would never allow children who could not consent to it take part so we don’t really judge it as truly “safe”, but rather “safe enough” for *informed consent*.

With extinction sleep training we need to ask, what are you, the “expert”, using as your definition of “safe”? Does it mean it will absolutely cause no physical harm? No emotional harm? I imagine that many of you actually believe that it is completely safe, with no risk of physical or emotional harm. Some may consider only the physical given that your discussion of needs often centers solely on the physical. Some of you may decide to make the claim regarding only the physical risk of death, thinking you are playing it safe in terms of this claim. Unfortunately I can’t answer this for you, but what I hope to show you here is that, *regardless of your definition*, if one thinks about the issue logically and completely, extinction sleep training should not fall into what a reasonable person would consider “safe”, *especially* for promotion on a wide-use scale.

What Research Shows Extinction Sleep Training is “Safe”?

Before we enter into the discussion of why these methods are *not* safe, let’s examine the claim of “proven safe” as it implies a wealth of research suggesting that these methods are safe in the short-term and long-term. So what is this evidence and does it hold up to the claims of safety?

The Review in ‘Sleep’(2006)[4]

The first piece of research often trotted out is a review of 52 studies that examined extinction sleep training found *no evidence of harm*. Of course people often assume that all 52 studies examined side effects to this type of sleep training and found no problems, but actually the vast majority of studies only looked at efficacy, not side effects. Of the 52 studies included, THREE examined one side effect relevant to emotional harm: attachment status. The others that included any side effects focused on other behavioural effects like crying and predictability and none looked at physical safety (though assuming no baby died that may be the only physical safety that matters to most). But we have three studies showing no risk of harm to attachment, right? Wrong. Even within these three studies there are three big problems that deserve mention:

1. These three studies used a measure of *parent-report* attachment, not child-led attachment status (e.g., the strange situation), which is the traditional way to assess it. Why does this matter? Parents are likely going to claim attachment even if the child does not reciprocate

and thus any measure should be based on the child's actions, not the parent's *perception* of their child's actions.

2. Even if we took the parent-report measure of attachment as valid, there is still issue with it, namely that the measure they used was *not designed to be a self-report measure*. The measure is actually comprised of questions that are part of a clinical interview designed to be administered and coded by a trained professional. This professional can then follow-up on certain areas in order to provide a clear picture of attachment that would be based on more than just some yes/no questions.
3. The youngest age in these studies is 16 months. Not newborns, not eight weeks, not even six months. Although I don't believe in extinction methods at 16 months either, it should be quite clear to anyone with half a brain that research on what is safe at 16 months of age does not apply downward. *A lot* of development happens between birth and 16 months. For example, it is safe for 16-month olds to eat a variety of foods, but a newborn? Or an eight-week old? Not so much.

The Review in 'Sleep Medicine Reviews' (1999)[5]

Yes, there's a second review that also claimed no side effects of extinction sleep training. Of course, we are actually looking at many of the same problems here:

1. The number of studies that looked at side effects was, again, *three*. Of these three, one was a case study with four children, leaving two actual studies, one of which was one of the ones included in the *Sleep* review above. Again, the only side effect of interest was attachment status, and again, it was only measured using a parent-report measure at the very end of sleep training. The one study that was also in the *Sleep* review suffers the same problems mentioned above and the one study that isn't duplicated also used a parent-report measure, only this time it was a measure that doesn't even claim to measure attachment.
2. The same age issue arises in that the youngest age studied is 16 months. Again, you can't claim that anything potentially "safe" for 16 months is safe for much younger.

The authors themselves acknowledge that the studies looking at extinction sleep training do not do so in a vacuum. These studies all include elements of a nighttime routine or parental information which may account for the findings and the use of these "interventions" alone may be enough to

change infant sleep behaviour.

Price, Wake, Okoumunne, & Hiscock (2012)[6]

This is a more recent study that examined long-term outcomes of sleep training and claimed to have found no deleterious effects. The authors of this study conducted a six-year follow-up to their randomized control trial of a sleep intervention to see if there were any long-term side effects as even they admit, this is an area with no research to it. Yes, experts, that's right, even the researchers who you are claiming support you admit that there is an absolute dearth of research on long-term side effects which are often a critical component of calling something "safe".

They claim to have found no differences between their groups and thus conclude that extinction sleep training is indeed safe. The problem? Their methods and analysis allow for no such claim. Although they did randomly assign families to either an intervention telling them about extinction sleep training or not, the "not" group consisted of well-nurses who were able to suggest whatever they wanted and none of this was coded and they have no idea what families decided to do on their own in the "control" group. This means that nurses may very well have recommended sleep training, only the researchers don't know about it or that families may have decided to try sleep training on their own. Furthermore, they admit that nearly half of the intervention group declined sleep training. So what we have here is the comparison of two groups, one which consists of about 50% sleep training and 50% not sleep training and the other that we have no idea what was done although findings pertaining to the usual use of sleep training have found that approximately 50% of families do engage in it on their own[7], so we can likely say around 50% in the "control" group also engaged in sleep training.

If you've been following and you understand statistics at all, or simply logic, you'll see the inherent problem. How can we claim anything about sleep training when it seems both groups have similar numbers of families who sleep trained? It's like comparing outcomes for smoking in two groups where each of the groups had a similar proportion of people who smoked. It just doesn't make sense. Not only that, but again, the vast majority of measures used were parent-report, even though the children in this age group could have answered a lot.

Gradisar, Jackson, Spurrier, Gibson, Whitham, et al. (2016)[8]

The most recent study that made headlines around the world claimed to have "proven" that extinction sleep training methods were safe. Of course, the study didn't actually show such a thing once again due to

methodological problems and the actual results. The study, a pretty good *preliminary* study, did manage to set up a randomized controlled trial to look at extinction methods, the faded bedtime technique (in which bedtime is pushed back later each night depending on the length of time to sleep onset), and a control group that included normal infant sleep education. According to the researchers extinction methods not only worked to increase sleep time, but also improved maternal well-being with no effect on infant cortisol levels, infant attachment, or infant behaviours measured a year later. Great, right?

Of course, if it were that simple, this chapter wouldn't be here, would it? What really happened is that the researchers had *very* small groups, made even smaller by a 50% retention rate at the 3-month follow-up in which they assessed cortisol and sleep behaviours (we're talking 13 per group down to 7), attachment was measured outside the zone in which it is validated (raising questions of the validity of the attachment results), and objective measures of sleep did not correspond to the parent-report measures at all, suggesting that the "positive" effects reported by parents were not quite the whole story. Add to this, the greatest improvements in maternal health were in the faded bedtime group (a very gentle method of guiding sleep), the greatest improvement in objective sleep data was in the control group (in fact, the extinction group showed a *decrease* in the overall amount of sleep when assessed by actigraph), and the *lowest* attachment security (if it can be counted as at all valid) was in the extinction group.

So why did the authors make the claims they did? Because most of these findings were not statistically significant. In a large study, this lack of statistical significance would be telling; however, because the sample was so very tiny, it means nothing. In fact, the authors rely upon null results (what we call a lack of statistical significance) to make their claims, yet they never had the statistical power to detect significant results! It's like trying to prove smoking can cause cancer by looking at 43 individuals, of whom only 13 smoked and for varying lengths with differing lifestyles that may or may not add to the risk of cancer and only seven of which you had data for on some of your key variables. Would you believe anyone who told you that study said anything at all about the risks of cancer from smoking? Hopefully not (though I admit I'm not 100% sure given what you're peddling with infant health).

Once again, we're left with a story that people want to hear getting press, but again there's no substance behind it. Nothing in this study proved anything, though it should have been used to argue we need more research on faded bedtimes as a gentle, effective sleep strategy for parents. Sadly, that didn't seem to get through.

Conclusions

I kid you not, this is what we have in terms of side effects for extinction sleep training and the claim that they are to be considered “safe”. For those of you who peddle your methods without any scientific background, I find it rather disturbing, but at least I understand that you simply don’t know any better. For you with medical degrees peddling this claim, you ought to have your licence revoked if you truly believe this constitutes “proof” of no harm.

Let me put things a little more bluntly for anyone who is still left on the fence here. If you were looking to have a vaccine or drug deemed “safe” and thus ready to be administered to children when needed or even preventatively, you would need to first go through a rigorous clinical trials demonstrating safety. It is not up to others to find harm after, but rather you have to show it’s safe *before* you can promote it. The timeline for these clinical trials is years and multiple have to be conducted.

Now, even once this has happened, government boards follow-up on the use of any of these medicines. Long-term tracking has to exist so that people can report negative side effects of the use of these drugs. For sleep training, although we are doing something that counters infant biology, there is no such follow-up, only lots and lots of anecdotes of either children doing well or doing not so well after it. Without systematic analysis of it, we are left wondering what the potential long-term implications are.

If, perchance, you think that drugs are different from a behavioural modification technique, let me bring you to the analogy of therapy. The amount of research that goes into behavioural techniques in therapy is far greater than this and even then there is continuous research that examines the relative efficacy of these methods along with any drawbacks. Clinicians acknowledge that the “safety” is relative to what you are asking a person to do (in terms of exposure) and that they can only engage in this with consenting adults, and in the case of children, assenting children and consenting parents. *Because there are risks.* It would be unethical to conduct these types of interventions on non-assenting children. In fact, the places that allow for this type of behaviour modification in non-assenting children often come under legal threat because, even if the adult guardians consent, you need the child on board too.

Why is Extinction Sleep Training NOT Safe?

Hopefully by now you can see that the research is about as far from “proven safe” as it can be. There is, quite simply, a total lack of good research asking this question. There has been no clinical trial, no methodologically sound follow-ups on issues pertaining to child attachment, neural development, stress reactivity, nighttime behaviours, and

so on. You will probably now backtrack and say, “Okay, it’s not proven safe, but it’s not proven to be harmful either.” Okay, that’s fair game too, even though in the realm of medicine and therapy, it is not up to me to prove harm, but up to you to prove no harm. That said, I still think we have enough knowledge and research to back up a claim of “potential harm” both physically and emotionally that would completely negate the statement that extinction sleep training is “proven safe”.

Risk of Physical Harm

There are three specific areas that need to be discussed here: SIDS, neurological development, and lack of breastfeeding. All of these fall under the rubric of physical harm.

SIDS: The first issue to bring up is relevant primarily for those advocating extinction sleep training for any baby under a year, but particularly for those six months of age and under, and that is SIDS. Does sleep training inherently increase the risk? Not to my knowledge, *but* the way in which it has to happen does because to walk away from a crying child and leave them in their room requires them to be sleeping in a different location than their parents. Let’s be clear: The safety guidelines on SIDS involve sleeping in the same room as your child for at least the first six months and optimally up to 12 months[9][10][11]. This is very difficult to do if you plan on shutting the door and walking away without responding, or if you plan on ignoring the cries in the middle of the night. The mere fact that you would recommend parents engage in a practice that can double the risk of SIDS[12] (even with a relatively low overall incidence rate) is astonishingly negligent.

Neurological Development: Will leaving a child to cry with no contact for extended periods most definitely cause long-term neurological damage? No. But we’re talking about risks here as there are no certainties in life (including the effectiveness of your programs, but we’ll get to that). The concern with respect to neurological development stems from the role of cortisol in brain development and its expression in extinction sleep training. Unfortunately there is very little on the topic of stress experience during extinction sleep training except one study that found high levels of cortisol at nighttime in infants who had undergone extinction sleep training even when they were not crying anymore[13]. However, this one study is far from conclusive given it’s preliminary nature, but we add to it that we do know cortisol levels rise when children cry for extended periods or when separated from their caregivers and that one of the ways to actually protect infants and children from this rise in cortisol is to provide comfort to them

during this time[14]. Why would rises in cortisol matter? Well, the crux of it is that it influences the developing brain, not for the good, but rather in ways that can lead to hypersensitivity to stress and anxiety[15] (and hopefully we can all acknowledge the long-term health problems associated with stress). Often people attempt to argue that a little bit of stress is good, but is what children get when undergoing sleep training “a little bit of stress”? No because if a child is already crying out, the child has reached a stage of at least moderate stress.

The other issue with cortisol in any form is the issue of hyporesponsivity. The period of hyporesponsivity was first detected in rodent development and has since been found to also occur in human infants. In short, it involves a temporal period in development in which it is difficult to elicit a cortisol response in an otherwise securely-attached child (insecure attachment is associated with cortisol increases to various situations)[14][15]. For human babies, this temporal period starts at about two months of age and develops throughout the first year of life with infants showing a strong hyporesponsive response by one year (often by 4 months), and a currently-unknown end-date though it looks to be around the 3 year mark. Specifically, the usual markers of mild-moderate stressors (in the case of research with humans it is inoculations which are actually rather painful) will continue to elicit a behaviour response of crying, but there will be no associated cortisol spike. Thus, there is a behavioural-physiological mismatch that results from this period of hyporesponsivity. Importantly, one behaviour that does elicit a cortisol response is separation from a caregiver as it is us caregivers who help buffer these negative emotional situations[16]. Specifically, in one study, securely-attached 9-month-old infants did not show a rise in cortisol for approximately 30 minutes when separated from their mother and left with a sensitive babysitter who was responsive to their distress[17]. However, if the babysitter was non-responsive there was a significant increase in cortisol. Why does this happen? Because hyporesponsivity is obtained by social buffering – our infants need us to buffer this cortisol response[14-16].

Finally, I want to add here a quote from a piece about a group of neuroscientists who are against extinction sleep training because of what they see as the implications for the developing brain, for when it is being left by the person you trust most in the world, it is likely to have a differential effect:

“And questions like who was involved in the event may have more significance than simply the presence of the hormone alone because it indicates which parts of the brain will be involved in processing the stress. In the case of children, the stress initiated by a caregiver may be more significant in terms of brain neuroscience than the stress associated with, say, little Timmy’s school-yard friend Ginny, who knocks him off the swing set from

*time to time. That stress may cause the boy some difficulty, but the stress associated with an attachment figure leaving him at night to cry alone in his crib may be more significant. The child's brain can only process that as an abandonment—it has no other way to make sense of it—and while the results of that abandonment vary considerably in any given household and certainly don't sentence the child to a lifetime of despondency—or, worse, mediocrity—the child's brain experiences a lesson it simply cannot order or regulate except by associating care with something other than the parent.” (Roger Thompson, “Time’s Up for Timeout”, *The Atlantic*, December 19, 2014)*

Risk of Not Breastfeeding: Some people choose not to breastfeed and currently the debate surrounding the risks of formula runs rampant. Clearly most of you experts land on the side of formula, despite health authorities and medical boards all avidly recommending breastfeeding based on the evidence we have to support it as the “optimal” (or simply normal) nutrition for a human infant. However, you all do tend to at least tip a hat to breastfeeding, and suggest that your methods are perfectly compatible with breastfeeding. Except they aren’t, as I covered in detail in Lesson Six, but let’s have a quick review, shall we?

First, a breastfeeding child is going to need more feeds over the same period of time in order to maintain and build mom’s milk supply[18]. Second, a mother who is not regularly feeding her child on demand is more likely to suffer supply problems and this is particularly true if we’re talking about going all night without a feed, especially early on[19]. Yes, sleep training, especially young babies, puts the breastfeeding relationship at risk. Why is this a health problem, you ask? Because not breastfeeding is associated with a host of health problems (even in our Western, industrialized world) such as gastrointestinal diseases, certain forms of cancer, SIDS, diabetes, and more that also results in billions of dollars in extra health care spending each year[20].

Risk of Emotional Harm

There are two specific areas that I’d like to discuss with respect to the risk of emotional harm: The influence of synchrony and the development of self-soothing. The latter being particularly important given you like to make the claim that your methods *promote* self-soothing. (It’s also important enough that there is an entire lesson devoted to it next.)

Synchrony: Unfortunately, most of you don’t actually know this term or if you do, you seem to ignore it, yet its implication for children’s emotional well-being is huge. For those of you who have no idea what synchrony even refers to, it is the shared influence on physiology that a particular dyad has (in this case, often mom/dad and baby). The greater the synchrony, the

greater they can influence each other and the more positive this is, even though they can also influence negative states.

Now, I can already imagine some of you jumping up and saying that it would be bad if baby influenced parent too much because then parent would be too upset to help. To this, let me remind you that us adults are far more capable of handling negative emotions and calming ourselves (and others) than infants are. So parents *are* capable of helping their little ones and it works kind of like this: Your baby gets upset and you start feeling similar physiological reactions (not necessarily the *same* physiological reaction, but an increase in distress for babe will mean a physiological increase for parent), signaling to you the distress your child is feeling. This is your impetus to calm your baby (and yourself) by offering comfort and sensitivity. It is why simply calming oneself down and holding your baby can help calm baby at the same time—your calmed physiology is now working on your baby. Of course, if parent cannot calm themselves down and get *more* distressed, they will pass that onto their baby[21] and this comes from the failure to learn how to regulate one's emotions, or self-soothe.

Herein lies the problem: When a child is parented by someone with whom they lack synchrony, they grow up at greater risk of being unable to handle negative emotions because they haven't been 'taught' how to do so through this synchronous process. Thus, this negative cycle repeats. This happens because two of the primary outcomes associated with synchrony are (1) the development of self-regulation[22] and (2) the development of secure attachment[23]. These two factors are critical to helping us as adults to form healthy relationships and behave in an emotionally healthy manner. Research has documented these effects: Mothers who were not cared for in a responsive manner as babies found it much more difficult to cope with their own infant's distress and were more likely to engage in non-responsive behaviours towards their own infants[24] and report a harder time bonding with their babies[25].

What is the link between synchrony and sleep training? Well, the one study we have that has examined it[13] has found that extinction sleep training results in a short-term disruption of synchrony at the least (short-term because it was not assessed long-term). That is, mothers (in the case of research it was mothers, not fathers) who used cry-it-out with their little ones actually *lost* the synchrony they had with their infants by day three of the program. The question remains how long it is lost for, and to this I imagine there would be immense variability depending on the child's temperament and parental responsiveness more generally. Regardless, the risk is real and documented and something parents should be made aware of when you push your programs on them.

Self-Soothing: Some of you may be confused now. I mean, after all, you spend much of your time convincing parents that if they don't shove their child in a room and leave them to cry then the child will *never* learn self-soothing, right? How can I possibly call this a risk?

The problem lies in the fact that you are just, quite simply, wrong about the idea that leaving a child to cry leads to self-soothing. It may stop signalling and in turn may lead to self-settling, but neither of these things constitutes 'self-soothing'. Let's start with the notion that a child naturally has these self-soothing behaviours internalized and ready to use. In one study, self-soothing behaviours were found to be used only 2% of the time when the frustration was parent-initiated[26]. Indeed, the more distressed an infant is, the less likely his is to be able to engage in any type of self-soothing. Do you see what this means? It means your baby who is screaming is *unable* to self-soothe, the skill is just not there inherently.

But what of the idea that your baby can suddenly learn this magical skill by being left alone to do it? Well, unfortunately for you, that's a bunch of BS too. It turns out that the main predictor of later emotional self-regulation is actually being comforted by a parent [27][28][29]. You see, synchrony actually *enables* the infant (then child) to learn how to comfort herself because the child is calmed physiologically by the responsiveness of the parent. The child is then able to eventually find means to provide this same level of comfort down the line to herself. Not only is it through mirroring behaviours that self-soothing is taught, but physiologically providing comfort (via feeding and holding) actually results in a reengagement of the vagus nerve which helps infants feel safe, secure, and calm and which leads to later self-regulation[30]. Remember: self-soothing in infancy isn't about only doing it themselves, it's more often about actively seeking out others for comfort, or co-regulation, which is the most common form of self-soothing a child can display[31].

Not providing this comfort (or 'responsiveness to distress' as researchers like to call it) means the child is at risk of not developing emotion regulation skills to the same degree as those whose parents were responsive to their distress. Like the effects of too much cortisol on the developing brain, the failure to properly develop the vagus nerve can also lead to heightened anxiety and susceptibility to stress while the risk of lower emotion regulation skills means an individual is less likely to cope well with this stress.

Safety Conclusions

What kind of conclusions can we make based on the research? Well, first, I will admit that it is still a gray area in terms of any type of *firm* conclusion. There simply isn't the research to go one way or another on it. What I

personally see, however, is far more research that *suggests* the risk of harm is greater than (a) has been acknowledged, and (b) the potential benefits (especially when compared to other methods that are gentle and supportive of a child). To be clear, what I have spoken of in terms of risks are just that – *risks*. Often people confuse risks with causality, assuming that if there is a higher or lower risk, it actually means something will happen with absolute certainty. Nothing could be further from the truth. This is why you will meet people who sleep trained using extinction methods report that it was wonderful, easy, and no long-term damage and others who experienced rather traumatic events surrounding sleep training.

This brings me to a second point that must be noted: a child's temperament will no doubt influence the outcomes. Temperament has already been found to play a large role in how children respond to types of parenting, with more sensitive children requiring far more sensitive parenting[32], and those who do not receive such parenting often show negative outcomes relative to their peers with the same parenting but different temperaments[33][34]. One of the factors that you experts ignore is that not all children are the same and the idea of a one-size-fits-all solution is simply asinine. Parents need to learn to read *their* children and that is impossible when they are so focused on following a schedule and plan designed for no child in particular, least of all theirs.

A final point here is that we actually have *no* idea as to the *actual* effects of your sleep training methods on children because we aren't measuring their cortisol, vagal tone, and so on during extinction sleep training or afterwards. The research that has been done has not looked at the actual biological or physiological effects on the child, only parent report, which is often problematic as physiology and behaviour are not always in sync (as I covered earlier). Although the Middlemiss study[13] mentioned earlier was a start to that, it really was only a very early beginning with much more work needed to follow up, replicate the results, and see how extinction sleep training influences children's neurodevelopment, attachment, and sense of security.

Is it “Effective”?

Hopefully it's clear to you experts that your claim of being “proven safe” is either entirely false or at least has some serious holes in it. However, what of the idea that it's effective? Or rather, “proven” effective?

The problem we run into here is that a large part will be dependent upon what is analyzed and the definition of “effective”. Right now there is no standard by which we can actually compare effectiveness. Is it 100% effective? 90%? What if it's only 50%? And what is it effective *compared to*? These are the questions we need to examine herein.

What has Research Claimed on Being Effective?

There are various studies out there and I will only focus on those that include a comparison group and those for whom families were taking part at home (not in a sleep clinic) because we really want to do the effectiveness, not the clinical efficacy. Oddly many of the original studies purporting to show that extinction sleep training is effective had no control group by which to compare people thus the ‘effectiveness’ can simply reflect the natural change in sleep that occurs with development over a period of months. Furthermore, many studies looked at efficacy in a clinical setting and not effectiveness at home, where the majority of families are actually *doing* the sleep training. Finally, only interventions for children *under* 1 year will be included as many of the approaches you promote focus on this age group and there is no point in looking at research on older children for although I still disagree with sleep training in that age group, there are significant developmental differences between these age groups. Therefore, here I will outline for you what constitutes the research ‘supporting’ your claim for ‘effectiveness’.

Hiscock & Wake (2002)[35]

This was the original study that led to Price et al.’s follow up[6]. The original study was designed such that half of the participants were randomly assigned to an intervention and half to a control group. Families were included if their child was between 7-9 months of age and the mother reported sleep problems of one of the following varieties: child waking more than 5 nights a week, 3 or more wakings in a given night, taking 30 minutes or more to fall asleep, or needing parental presence to fall asleep. Forty-six percent of mothers reported a problem (please file this under ‘duh’ as most of these behaviours are 100% normal for this age-range).

Both groups received information on normal infant sleep (though what that information is remains unknown) and the intervention group received three private consultations to set up sleep plans and learn about controlled crying. These mothers were also asked to keep a sleep diary whereas the control group was not. (Of note, the lack of intervention in the control group is one of the key drawbacks. We know that just having meetings with people and receiving one-on-one attention can elicit positive change, regardless of the content. As the control group only received a sheet describing normal infant sleep patterns in the mail, with no context, this is a severe limitation.)

Follow-up was conducted at 2 months and 4 months post-randomization. Notably, at no point do we know which families actually

used controlled crying in either group as this was never assessed and may not be the reason for any change (especially given the drawback outlined above). However, at the two month follow-up, there was a significant difference in the number of mothers in each group who reported continued sleep problems with their infant. In the intervention group, the success was that 69.7% of the families said their problems had resolved compared to 47.4% in the control group. At the four month follow-up, there was no difference between the two groups and in the intervention group, the success had dropped to 64% while the success in the control group rose to 54.9% (due to smaller sample sizes this was not significantly different), suggesting that time alone (even without any physical meeting for the control group) was enough to improve infant sleep. When looking only at those mothers who scored high on depression, there was a significant difference in depression rates at 2 months, with the intervention group showing greater improvement, but again, this was not different at 4 months.

Effective? I find this hard to claim given the problems with the study methodology and lack of knowing what component led to the initial difference, but also because there was no continued improvement at 4 months post-intervention.

Symon, Marley, Martin, & Norman (2005)[36]

Another randomized control trial from Australia, this time recruiting families with babies 2-3 weeks of age to promote “behavioural sleep techniques” which included controlled crying and cry-it-out. Again, like Hiscock and Wake, only the intervention families received a meeting with a nurse where the nurse covered normal infant sleep (which was really is about how you need to train children to sleep, there is nothing about normal, long-term sleep patterns) and sleep training. Control families received nothing. There are no baseline analyses for infant sleep behaviours at 2-3 weeks, just follow-up data at 6 weeks and 12 weeks of parent-report sleep and not parental interpretation of problems or clinical interpretation of problems.

The authors found that at 6 weeks, more intervention families had babies sleeping 15 hours or more per day (65.6% vs. 38%) and this held at 12 weeks (57.4% vs. 33.2%). The difference on a daily basis was also significant (15.6 vs. 14.3 hours at 6 weeks and 15.3 vs. 14.1 hours at 12 weeks), though all babies met “normal” sleep criteria (the *upper* end of daily sleep recommendations is 16-17 hours per day for a *newborn*, thus the intervention group is nearly out of normal on the upper end). Notably, there were no differences in amount of time crying per day in both groups at both times. The authors use this to suggest that there’s no additional crying involved or that children are not unhappier after the intervention;

however, it does mean that intervention group babies are spending *more* of their *awake* hours crying than the control group. Take of that what you will.

Effective? There's an extra hour of sleep per day reported by parents, but this comes when not necessary as the babies are all in the realm of normal (thus no sleep deprivation problems) and proportionally-speaking, the babies who are in the intervention group are crying more while awake than the control group. I'm not sure this qualifies as 'effective'.

Wolfson, Lacks, & Futterman (1992)[37]

I'm not 100% this intervention qualifies as full-on extinction sleep training, but there definitely seems to be elements of it included in it. The study followed 60 couples across 4 sessions, 2 pre-birth, 2 post-birth. The intervention was described as being based on the philosophy that infants do not need parental help falling asleep and that parents should increase their intervals between when a baby wakes and when they respond. This also includes reducing nighttime feeds, ensuring babies are not eating for a longer set period of time each night. The control group actually received the same amount of one-on-one clinical time, just not the same information (including no information about infant sleep which is also problematic as control groups should be as similar as possible in order to account for contact time and sense of improvement that comes from actually doing something).

Outcomes pertaining to infant sleep were assessed using a sleep diary and included total sleep, number of sleeping episodes, longest sleeping episode, number of nights infant sleep continuously for more than 300 minutes, number of waking and signalling episodes, and number of feedings. Notably, the variables did not cohere very well with an alpha of .50, suggesting that these sleep variables are not as interconnected as one might believe. Outcomes were assessed at 6-9 weeks of baby's life and a follow-up at 16-20 weeks of age.

Technically there were differences between the groups that were significant, though the question of practical significance remains. For example, the difference in amount of total sleep in the intervention and control groups ranged from 4.8 minutes (at week 6) to a maximum of 15.3 minutes (at week 9) (at follow up, the difference was 14.2 minutes). The number of sleep episodes were also found to be significantly different, but with the intervention group reporting 1.15 (16 weeks) to 1.68 (6 weeks) sleeping episodes and the control group reporting 1.48 (16 weeks) to 1.85 (6 weeks).

Of note, most of these families had babies that were not waking regularly and they did not feed regularly. At 6 weeks there was an average of <2 feeds per night in both groups and this was down to <1 feed per

night in both groups by 16 weeks. Parents also didn't respond to their infants in either group very often with the control group having parents respond on average 1x per night at 6 weeks down to .61 times per night at 16 weeks. Although the intervention group had a higher proportion of infants sleeping a continuous 5 hours or more on 5 or 6 nights of the week, a majority of control group parents also reported this. Interestingly, intervention group parents often didn't respond at night whereas the control parents did (based on the reported night wakings and responsive episodes) and yet the differences were negligible on a practical level.

Effective? It seems we're comparing two groups in which most families would give an arm and leg for this type of sleep behaviour so I don't know quite what there is to improve upon. Especially not 15 minutes of added sleep. So although there are statistical differences in terms of what parents believe, I would put this in the "not practically significant" pile.

Hall, Hutton, Brant, Collet, Gregg, et al. (2015)[39]

One of the most recent studies claiming to look at the effectiveness of extinction methods for infant sleep comes to us from Canada. Dr. Wendy Hall and colleagues developed and ran a randomized controlled trial in which there were two groups: intervention (i.e., extinction sleep training) or a safety course. The safety course is necessary because you want to make sure that the groups each get some form of intervention as sometimes just being in a study at all can make a difference to the way a parent feels. However, the fact that there was no intervention that focused on sleep that was not extinction-based is a problem. There's no way to know if this extinction intervention compares to, for example, just providing families with normal infant sleep information or something like faded bedtimes in which families get to feel like they are taking an active role in their child's sleep. After all, just doing something often helps families report better outcomes and if we're focusing on parental report for outcomes, we need to ensure both groups have an equal chance of success.

With this design, they managed to recruit a decent number of participants – 117 in the intervention group and 118 in the control group. Although much of the data was parent report, they also included actigraph data to obtain *objective* measures of infant sleep (though they only had actigraph data for 96 participants in each group for a total of 192 of the 235 originally recruited; not a bad retention rate for a six-week follow-up). The outcome measures included: the objective measure of infant sleep as Dr. Hall and colleagues have regularly asserted that these behavioural interventions are needed in order to help *infants* with their sleep, parental reports of infant sleep, parental fatigue, parental depression, and parental sleep quality.

The claim by the researchers was that this intervention was effective because the intervention group reported fewer problems with infant sleep (4% versus 14%), lower depression, lower fatigue and improved sleep, and better parental cognitions. This is fine and dandy if the point was to look at the effect on *parents*, and if we had a proper sleep control group which might change parental cognitions and responses as well, but we don't and the claim is that it improves *infant sleep*.

What of infant sleep? Well, parents in the intervention group reported fewer night wakings and better infant sleep, in line with a lot of research and anecdotes where parents claim their child is happier and sleeping better. But what of the actigraph data? Turns out there was no difference between the two groups at the six-week follow-up. Both groups woke approximately eight times per night, with three "long wake" episodes. This is in contrast to what parents report which was an average of 1.7 nightly wakings in the intervention group and 2.2 nightly wakings in the control group. So clearly parents may notice some of the longer wakings, especially in the control group, but the children are not always calling out (especially in the intervention group) and signaling to their parents.

Effective? I think it's very hard to argue that this type of intervention is effective with respect to infant sleep. These findings are similar to those from Gradisar and colleagues[8] (see the "Safe" section above) which also found that although parents reported that the extinction sleep training was "effective", the actigraph data (from the few participants) did not show a difference at all. In fact, in Gradisar and colleagues, the actigraph data found the control group who received normal infant sleep information showed the greatest improvement, but this was not statistically significant given the small sample size. In both of these studies, we see how objective and subjective ideas of the effectiveness of extinction sleep training differ and how we must see that objectively, these methods are far from effective.

Loutzenhiser, Hoffman, & Beatch (2014)[7]

Okay, so the aforementioned four articles are really what we've got (so far as I could find) in terms of assessing children under 1 year and that which included a control group and was done at home. The Gradisar and colleagues[8] research could also be included here, but as it's covered above, there seems to be no need to repeat myself. There was one study which I was unable to retrieve as it was unavailable, but which reports that nearly 50% of families did *not* see improvement with controlled crying[38] as reported in one systematic review[6]. I am not clear on if this study included a control group, but the fact that nearly 50% did not see an improvement raises questions as to whether a control group was necessary to show that the methods were ineffective. I'll now include this final study

which does break my rule a bit in that there isn't a control group, but only because the entire focus of this paper was on *perceived* effectiveness which is relevant to the discussion at hand as this is where most of these studies have claimed any type of effectiveness.

The claim of effectiveness requires that parents are able to use a method and see long-lasting, permanent change. The question asked by Loutzenhiser and colleagues is if this is at all accurate for sleep training taking place at home. It's survey data and thus there are inherent limitations to what can be concluded, but it is eye-opening nonetheless.

The study included parental responses from 411 Canadian parents of infants aged 6-12 months. Half of the parents admitted to using extinction sleep training (cry-it-out or controlled crying) to get their infant to sleep longer at night and 70% of those admitted to doing so prior to their baby turning 6 months of age. Just under 60% reported using it for less than a week, though nearly 13% reported using it for *longer than a month*. Were these families successful? Only 16% of families only had to go through the experience once, though whether that's because it was successful or they decided against using it again is unknown. The remaining 84% of families tried using it multiple times (because it didn't work the first time) with nearly 50% of parents reporting using it *4 or more times*. In terms of 'solving' the sleep problems, only 14% said it eliminated night wakings whereas nearly 42% of families said it made *no difference at all* (the remaining families were in between).

Effective? Well, in terms of parental behaviours and their perception of its effectiveness, not so much, which counters the findings from the previous studies where parents reported effectiveness, despite objective data countering their claims. We don't know how these infants' sleep compared to those who did not use sleep training, though again, the point here was to see how *parents* felt about its use and the results are pretty clear: Far from a one-time thing, extinction sleep training is something that is often requires repeat implementations, may require extended use (which clearly gets us to the repeated stress), and rarely results in the type of sleep help parents are looking for.

Summary of Effectiveness Findings

I must first make clear that there were other studies that *may* have included elements of extinction sleep training that would have qualified to be included herein but of the ones I read, some were simply very unclear about what was included in their intervention. This lack of detail made it nearly impossible to determine if they should or should not be included so I erred on the side of caution and did not include them. I also acknowledge there may be other studies that I missed in my search, though I doubt there are

enough to suggest sleep training suddenly should be viewed as “effective”.

Overall I think it’s nearly impossible to make the claim that extinction sleep training is “effective” when we look at the data. Although I was more stringent with the studies I covered directly, even those that don’t include the types of controls I was looking for do not show a large improvement according to the review by Mindell and colleagues[4]. Notably, the effectiveness wanes with development – with greater “success” reported when used earlier; *however*, as the follow-ups are also in this early time period and often don’t include a control group, the “success” may be nothing more than normal, age-appropriate development. Not only that, but some research even suggests that environmental (i.e., behavioural) factors play little-to-no role in nighttime sleep consolidation[40] which is likely why objective sleep data often doesn’t match parental report[8][39]. Parents may report that their children are sleeping through the night, but the fact is that most of them aren’t, they have just stopped calling out for their parents, for reasons we can only guess at.

Conclusions

Well “experts”, I hope you can finally see that the claim that extinction sleep training “is proven safe and effective” is incredibly disingenuous. The evidence for effectiveness is weak, especially when we consider families undergoing sleep training at home without the help of a trained researcher or practitioner, and the risks associated with it are real. As many of you suggest sleep training should begin in the first six months of an infant’s life (some even as early as the newborn period), I also want to mention that a recent systematic review looking at the studies that have included a variety of sleep training methods (not just extinction) for young infants has found that they are not only ineffective, but that they increase the risk of various negative outcomes (including some of the ones mentioned herein)[41]. The conclusion from this systematic review was that cue-based care, in which parents respond to the cues of their babies, provides the best outcomes for babies *and* parents.

When we consider this together with the fact that there are wonderful, gentle means by which parents can help influence infant sleep to a reasonable level – remember that ‘sleeping through the night’ in a clinical sense is a total of FIVE hours of sleep – there is really no reason for promoting methods like this. These methods can put the infant in harms’ way depending on a host of other factors, and may erode parental efficacy and increase stress when sleep regressions occur or they start their ‘training’ for the fourth time.

I realize that saying “Not really proven to be effective and we have no idea about the safety implications, but please, go ahead and listen to our

advice!” isn’t what you want to be selling, but that’s exactly the reality you have. The question is: Will you listen and stop making claims that aren’t true?

LESSON EIGHT: SELF-SOOTHING

“What a child doesn’t receive he can seldom later give.”

- P.D. James

I absolutely love the above quote by P.D. James as it highlights the issues so often forgotten in today’s parenting world, especially by you experts. With the push to get our infants and kids to be independent, you seem to believe that the only way to get them there is to force them. If we don’t put them on their own two feet, how will they learn to stand? And I believe nowhere is it more true than in the push to get children to regulate their own emotions—or self-soothe, if you like. You experts tell us that if we don’t let our babies cry and calm themselves, they’ll never learn to calm themselves. And so parents embark on practices that hurt not only their babies but themselves as well. Listening to their child wail, alone, they survive by telling themselves that they are doing the “right” thing and that this is how their child will learn to self-soothe. The problem is that absolutely nothing in the research supports this assertion. Even worse, what we do know flat-out contradicts it. Parents are holding themselves together by a lie and that has to stop.

The self-soothing argument always reminds me of the saying “sink or swim” except in this case, it’s “cry or self-soothe”. They’re both equally asinine. If you think of the “sink or swim” saying, it’s really only applicable to people who know how to swim; someone who doesn’t know how to swim yet will sink *every single time*. Learning to regulate your own emotions is no different. Unless you’ve learned how to do it, you will fail, and it’s why your advice to parents proposing they teach their children using these methods is not only painful to the family, but doesn’t help the child in the long-run. In this lesson, we’ll review the evidence, the theories, and the

long-term repercussions of what it is you're doing by spreading this misinformation.

Evidence “in Favour” of the Crying to Self-Soothe Hypothesis

I should start by providing the evidence that some of you would try to cite in favour of this approach to learning emotion regulation (I say "some" because many of you don't bother with this whole research stuff at all, sadly). Thomas Anders of the University of California, Davis is an eminent researcher in the field of infant sleep and has examined factors relating to infant self-soothing, self-settling, and sleep in the first year of life. Much of his research does not support crying to learn self-soothing (for example, see [1]), but unfortunately one piece of research has been used to advance this position and thus we must examine it[2]. In this particular study factors were identified that predicted what the researchers terms “self-soothing” at one year of age, defined by a child not calling out to their parents in the middle of the night, and increasing the time to respond to the infant upon awakening starting at 3 months was a significant predictor for this behaviour at 12 months.

In addition to this singular piece of Anders’ work, Karyn France from the University of Canterbury in New Zealand has examined the use of drug and behavioural techniques to treat “infant sleep disturbances” (I struggle mightily with this terminology because it implies infants should sleep through the night which is ridiculous in and of itself). She has found that infants of parents who engaged in “systematic ignoring” (i.e., controlled crying and cry-it-out) techniques show great success in getting their children to sleep and suggests that the success comes from infants learning to self-soothe (e.g. [3][4][5]).

What is the problem with this research? Largely the method of assessing “self-soothing” is simply the extinction of crying. In Lesson One we talked about what it means to stop crying and how there are other explanations for why an infant would cease to cry that have nothing to do with lessons learned or, in this case, self-soothing. That same lesson applies here: infants who have stopped crying and signaling to their parents may not have learned to self-soothe at all, but they have learned not to cry because it’s a waste of energy.

So how do we assess self-soothing? Ideally you would measure cortisol levels as a reflection of the stressor and the ability to reduce the stress on the system, but we don’t have much of that research. You could look at infant behaviours that precede the so-called “soothing” to determine if these behaviours are what is keeping them from getting frustrated or crying (or overcoming the negative state), so you know the behaviour is actually helping them avoid the negative state. You could also measure early

parental behaviours and then examine child self-soothing behaviours when the child is of age (or emotion regulation, as it's called in older children and adults) to see if they are matching what the parents did. Luckily, researchers have done some of the latter types of experiments, but before we get to that, I want to cover some of the research that highlights the failure of the “sink or swim” model.

Observational Learning, Guided Learning, and Mirror Neurons

The question that is most important to the self-soothing issue is “How do children learn?” Logically, if the sink or swim method were successful, we would never have to help guide children or model behaviours on their path to learning, but the fact remains that we do. Some might try to argue that we don't explicitly teach kids that much – like walking, for example – and they would be right, but it doesn't mean we still aren't teaching them at all. In 1961, a professor by the name of Albert Bandura at Stanford University undertook what would become an amazing experiment now called the ‘Bobo Doll experiment’. He split young pre-school children into groups to observe an adult interact with a bobo doll either aggressively or not. He found that children who witnessed the adult act aggressively were more likely to act aggressively themselves, even though the behaviour had not been explicitly taught[6]. These results support what has been termed ‘Social Learning Theory’, a psychological theory postulating that social learning occurs through *imitation* until the concepts being learned are internalized and fully understood[7]. With respect to self-soothing, we don't need to *explicitly* teach infants how to self-soothe, we just need to model the behaviour for them so they can internalize it via social learning. In some cases we do just that when we calm ourselves down, but this type of learning does require a much older child to be able to understand the nuanced behaviour that self-soothing can include so often this behaviour involves us helping to soothe the infant and the infant internalizing these actions or soothing behaviours.

This brings us to what has been termed ‘scaffolding’ or ‘guided learning’. In addition to simply modeling behaviour ourselves, guided learning means that we are showing children the behaviour of interest and helping them learn how to perform it themselves. Some researchers believe that when parents offer comfort to children, they are modeling the behaviour children should follow in terms of how to soothe themselves[8][9]. Indeed, they argue that *this* is the way children eventually learn to soothe themselves in a healthy manner. But why, then, is this not internalized in the first few months? After all, many of you experts would argue that you tell parents to avoid crying-it-out for a period of time, or to offer comfort during the day and thus, wouldn't those times model the behaviour for infants?

To answer this, we need to turn to Lev Vygotsky. In addition to his seminal work on psychology and culture, Vygotsky coined the term “zone of proximal development” which refers to what a child is capable of doing on his or her own and what he or she can do with help[10]. This is key as attempting to teach a child something outside of his or her zone of proximal development means the child can't learn anything at all. Emotion regulation, being a complex and difficult task at the best of times, is something that is far beyond the reach of young infants (at least in terms of the full emotion regulation we expect as they can start to show early attempts and signs when in very mild distress). Children take time to learn how to regulate their own emotions, and this takes place at different time points for different types of regulation. That is, an infant may be able to suck on his hand when feeling tired or slightly upset, but once distressed, the ability to self-soothe is absent. During this developmental process, guided learning would suggest that we continue to model the behaviours our children need to learn by *helping* them when they are distressed so that they can *eventually* learn to do so themselves. Expecting them to learn this too early – if we stop modeling the behaviours for them – means they not properly learn to self-soothe.

Finally, mirror neurons deserve some discussion here. For those unaware of the term, mirror neurons refer to neurons in the brain that activate not only when one performs an action, but when one witnesses it as well[11]. They have been identified in primates and humans alike, but have so far been limited to physical acts[12]; however, they have been hypothesized to play in role in all sorts of psychological functions, particularly theory of mind (the ability of to understand the mental and emotional states of others)[13][14]. It is quite possible that infants utilize mirror neurons to learn about behaviours relevant to emotion regulation. Importantly, this would mean that they require witnessing the acts, as described via social learning or guided learning theories, for the appropriate areas of the brain to incorporate that information and utilize it when necessary. Without this stimuli, it would be unreasonable to assume the mirror neurons would learn what they are meant to do; after all, those who work with mirror neurons believe they are the key to our ability to imitate[15], and imitation is necessary for almost all types of learning.

Evidence Against the Crying to Self-Soothe Hypothesis

Evidence for the role of responsiveness to distress helping emotion regulation is apparent in research across age ranges. Starting with work in infancy, researchers at the University of Oregon examined infant behaviours for evidence of self-soothing acts (i.e., ones that helped the child avoid negative emotional states) and found that there were various

manifestations of self-regulation of emotions in infants from 3 to 13.5 months of age. These acts included some that the infants were able to do themselves (like arch away from a negative stimulus), but many involved the infant utilizing the mother as a buffer to help avoid the negative emotions[16]. This suggests that during this early period of learning self-regulation skills, infants are aware of their own limitations but are able to turn to those who they know can help, a major feat. Importantly, this research was done during the day and utilizing a variety of behaviours and games to induce negativity in infants and thus did not rely on the usual 'stops crying' as the assessment of self-soothing. It also tells us that infants who call for help when distressed need that help as those infants who could self-regulate their emotions did so during the study (though these were few and far between). Notably, no child was able to self-soothe during *all* of the conditions presented to them, rather they all needed some help sometimes (don't we all?). But what this does tell us is that ignoring our infants' calls for help won't lead our infants to learn to self-soothe any faster - they're doing the best they can - but will simply serve as evidence that the parent is not there to help them when they request it.

There is also neurobiological evidence that excessive crying is damaging to the brain. Megan Gunnar of the University of Minnesota has researched and reviewed the wealth of research on this phenomenon and found that infants who are left to cry *excessively* demonstrate a stress response in the brain that develops into what has been termed a 'stress-reactive' neurological profile[17]. This stress-reactive profile suggests a lack of emotion regulation in older childhood and adulthood and doesn't exist when children are provided with comfort when they cry. So it seems that the neurological research suggests that leaving your child to cry not only shouldn't lead to self-soothing behaviour, but may lead to a failure to develop healthy emotion regulation techniques. The question becomes how much is too much? To this, we don't have an answer, but given the evidence in Lesson Seven that suggests some families are using extinction methods for over a month, definitely some children will be exposed to this type of ongoing, repetitive stress, to their detriment. Of course there is also the issue of temperament; what is too much for one child won't be for another, and yet we have no way to know what this threshold is for any given infant.

To top it all off, there is evidence from older children that demonstrates quite the opposite of the sink or swim hypothesis. First, though not conclusive evidence, excessive crying (which, as just discussed, can occur with some children left to cry-it-out) has been linked to later problems with emotion regulation[18]. Interestingly, this research did not find relationships between maternal sensitivity and later emotion regulation (sensitivity encompasses a varied array of maternal behaviours, not all of

which pertain to responsiveness to distress), which one might expect. Pertinent to this, however, research that has teased apart maternal warmth and responsiveness to distress (the two main components associated with ‘maternal sensitivity’) found that responsiveness to distress, *but not warmth*, predicted emotion regulation in 6- to 8-year olds[19]. Thus part of the problem with the aforementioned research is that it failed to separate responsiveness to distress from other sensitive behaviours.

Further research comes from a longitudinal study looking at maternal behaviours of infants aged 6 months and child behaviour at 2 and 3 years of age[20]. In this study maternal responsiveness to distress at 6 months, but not responsiveness to nondistress, was found to predict emotion regulation and socio-emotional functioning at both 2 and 3 years of age. This was particularly true for infants who were rated as being temperamentally reactive at both 1 and 6 months of age. This research highlights the long-term implications of parental behaviour, particularly when the infant is known to be highly reactive. Notably, highly reactive infants tend to cry more to begin with[21] and thus understanding the effects of parenting behaviour is paramount for these children. This also highlights the effects of temperament and how different temperaments require more or less parental responsiveness to thrive.

Finally, in a wonderful review on what affects later emotion regulation, Judy Cassidy from Pennsylvania State University reviewed the research between attachment parenting and emotion regulation and found that infants who have parents who engage in practices that promote secure attachment, particularly responsiveness to distress, have children who demonstrate better emotion regulation than those who show insecure attachments[22]. It would seem from this review that it is not the practice of leaving our infants to figure it out that helps them learn to self-soothe, but rather the opposite: the practice of responding to them helps them learn these vital skills.

In sum, there is a plethora of research that demonstrates the importance of *responding* to an infant’s distress in order to facilitate emotion regulation. The idea that the infant learns to self-soothe without being exposed to soothing behaviour from adults is patently false. Infants are the proverbial sinkers who can't swim if they're not taught how.

Conclusions

The importance of properly teaching self-soothing/emotion regulation to your infant cannot be understated. The cyclical nature of parenting has shown us that attachment behaviours and patterns are transmitted between generations; that is, children tend to repeat what they experience[23]. This means that parents who don’t respond to their child’s distress in infancy

will most likely have children that will grow up with problems in regulating negative emotions which can contribute to their problems in providing comfort to their own children. It's a pattern that can be very difficult to break (though obviously not impossible as many people who use evolutionary or attachment parenting methods do so because they became self-aware of some problems stemming from the way in which their parents raised them). By promoting methods that lead to problems in socio-emotional functioning, you experts are not only damning the children who have to experience the pain of crying-it-out, but generations to come. I hope you can learn from this and at least realize that telling parents a lie to help them ignore their children's needs helps no one. Parents deserve to have the truth when making decisions about how to raise their children so they don't become reliant upon lies to help them through the hard patches.

CLOSING REMARKS

A lot has been covered in these lessons, from an understanding of physiological behaviours to parental behaviours and a critique of your methods pertaining specifically to sleep. I understand that as “experts” you have an image to maintain and profits to make. Inherently there’s nothing wrong with that, but it crosses into dangerous territory when you make your recommendations at the expense of the families who trust you to be giving them advice that is backed by research. I hope you can take this to heart and perhaps think twice before peddling ideas and pushing statements that don’t have the backing you think they do.

For the parents reading this, I hope you understand the sometimes snarky tone I have taken with these “experts”. I find it bordering on criminal the fact that many of them actively ignore research in favour of outdated behaviourist techniques. I find it heartbreaking that they prey on new parents’ fears and insecurities to make a few bucks. I don’t doubt that any of you who have followed their advice have done so with your child’s well-being at heart. As parents we seek information to *help* us parent in the best way possible and thus we have to make assumptions that people out there are truly considering what is best. Unfortunately, through ignorance or worse, many of the people for whom this series was addressed are not doing so.

We are in a unique time where parents enter parenting with little experience with children. When we consider the vast timespan that humans have been on earth, this phenomenon is new and bizarre. A hundred thousand years ago, heck even two hundred years ago, a woman ready to have children almost inevitably would have spent ample time with children,

learning the ways of the culture that surrounds her. And although there are and were cultural differences, in many ways there are a lot of similarities based on infant biology because that made raising a child easiest and helped them to thrive.

We are not bound by these biological constraints as our culture has moved beyond them, providing us new ways to raise children, often out of the necessity of other cultural changes. We are unaware of what is biologically normal for infant, meaning we navigate parenting without the benefit of information that could help us immensely in understanding and helping our children. Without a critical understanding of biology, we fail to grasp the effects of these modern changes on a primitive infant, who has not evolved out of these biological needs.

My hope is that this mini-book will help families understand the mainstream advice for what it is: Lacking in evidence, culturally-bound, and failing to consider the needs of the infant. This does not, however, mean that all is lost. There are many resources to help families deal with any problems – cultural or biological – that they may face in a society that is less than family-friendly. You can go to www.EvolutionaryParenting.com to find many of these resources, from academic sites to gentle parenting guidance. Help is out there, and you don't have to sacrifice your sanity or your relationship with your infant for it.

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