

Do infants dream? essay sample



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Abstract

From little smiles to frowns, and fluttering eyes to twitches, the face of a sleeping baby is very expressive. Yet, what exactly is happening during this time? Recently, *Parenting Magazine* published an article examining whether or not babies dream. The article's hypothesis is that maybe they do. The reasoning behind assuming they do is that they spend about 50 percent of sleep time in active/REM sleep, the stage characterized by vivid dreams, compared with 25 percent for adults (2008). The article states that it is possible that infants have more, or longer, nighttime adventures than their parents do (2008). This paper will attempt to answer the following questions:

Do babies dream?

How often do babies dream and why?

What is the subject matter of these dreams?

This paper will focus on answering these three questions as posed by the article in popular media source *Parenting Magazine* and will attempt to prove that infants do, in fact, dream, however, although there are speculations, it is still unknown what the subject matter of the dreams are and how often they occur.

Do Infants Dream?

Parenting Magazine recent published an article examining whether or not babies dream. The article states that maybe they do. The reasoning behind

this is that they spend about 50 percent of sleep time in active/REM sleep, the stage characterized by vivid dreams, compared with 25 percent for adults. The article states that it is possible that infants have more, or longer, nighttime adventures than their parents do. Researchers agree with the made in the article.

Babies, do have dreams while sleeping, although it is unsure what the subject matter of the dreams are and how often they occur.

The *Parenting Magazine* article answers the question “do babies dream?” with a maybe. The article goes on to say that researchers can not know exact subject matter, but they can assume that their dreams are most likely silent. Jodi Mindell, Ph. D., the associate director of the Sleep Center at The Children’s Hospital of Philadelphia states that, “Since infants don’t have language, their dreams probably consist of imagery without any dialogue” (2008). As for nightmare, Mindell claims that beyond a healthy wariness of strangers, kids don’t develop real fears until age 2 or 3. “Until then, it’s very unlikely that a baby would have a scary dream,” says Mindell (2008). The article goes on to say that night terrors are not bad dreams. Although these unexplained partial arousals between sleep stages may cause your child to shriek and thrash about, she is not having a bad dream. After a few minutes, the infant will settle back down and that in fact, he or she probably never woke up at all (2008).

A dream is mental activity, i. e. thoughts, images, emotions, occurring during sleep. Most dreams occur in conjunction with rapid eye movements; hence, they are said to occur during REM-sleep, a period typically taking up 20-25%

of sleep time. Infants, in contrast, are believed to dream during about 50% of their sleep time (as cited in Fiss, 2000). Dreams occurring during non-REM periods are said to occur during NREM-sleep. Sleep researchers divide up sleep time into stages, mainly defined by the electrical activity of cortical neurons represented as brain waves by an electroencephalograph (EEG) (as cited in Fiss, 2000). The EEG records electrical activity in the brain by connecting surface electrodes to the scalp. The stages of sleep occur in sequence and then go backward to stage 1 and REM-sleep about 90 minutes later. This cycle recurs throughout the night with the REM period typically getting longer at each recurrence (as cited in Fiss, 2000). Typically, a person will have four or five REM periods a night, ranging from 5 to 45 minutes each in duration.

There is some evidence, however, that REM-sleep evolved before dreaming and that the two are independent of one another. The REM-dream state is a neurologically and physiologically active state (as cited in Fiss, 2000). When a person is in deep sleep there is no dreaming and the waves, called delta waves, come at a high amplitude of about 3 per second. In REM-sleep, the waves come at a rate of about 60-70 per second and the brain generates about five times as much electricity as when awake (as cited in Fiss, 2000). Blood pressure, heart rate, breathing rate, etc. can change dramatically during REM-sleep. Since there is generally no external physical cause of these states, the stimuli must be internal, i. e., in the brain, or external and non-physical (as cited in Fiss, 2000). The fact that the part of the brain that controls REM is the pons, a primitive section of the brain stem that controls reflexes like breathing, would support the notion that the stimuli for the

physiological changes that take place during REM originate internally (as cited in Fiss, 2000).

To solve the mystery of whether babies dream, Dr. Howard Roffwarg and associates undertook a classic study in 1966. The research team began by studying sleep waves in newborns (as cited in Lederer, 1966). The investigators believed that infants do not have REM sleep because they do not dream, but the researchers intended to discover what newborn sleep waves looked like. The team would continue to measure sleep waves throughout infancy and toddlerhood to learn when and how dreaming begins. The startling discovery was, not only do newborns dream, even on the first day of life, they actually dream more than the college students who were studied in the original dream studies (as cited in Lederer, 1966). Dr. Howard Roffwarg also confirmed that “ Their dream-sleep cycle is almost the exact picture of the dreaming sleep pattern in adults (as cited in Lederer, 1966).

This initial study has been repeated several times, confirming and expanding the knowledge of babies’ sleep. It has been determined that humans dream more in the first 2 weeks of life than at any other time (as cited in Lodge, 1969). The visual part of the brain is more active during newborn REM sleep than during adult sleep (as cited in Lodge, 1969). They also seem to have more vivid visual dreams. It has also been determined that infants 3 to 5 months old dream much more than infants 6 to 12 months old do (as cited in Lodge, 1969). 18-month-olds dream almost twice as much as 3-year-olds do. By age 3, the amount of time spent dreaming per night is in the same range

as that of young adults (as cited in Lodge, 1969). As the wheel of time turns throughout life, each year we dream a little less.

These findings brought up another question. If children dream from the moment that they are born, might they dream before that time? Patricia McBoon found that “ An unborn child may have rudimentary dreams which play an important role in the development of its brain” (1969). Researchers now know that they begin to sleep at as early as 4 weeks of gestation (as cited in Shaffery, 2005). REM sleep waves have been found at as early as 28 weeks of gestation, and REM sleep waves accompanied by the eye movements of dreams by 30 weeks of gestation. It seems dreaming begins 2 or 3 months before babies are even born (as cited in Shaffery, 2005).

When asked if babies dream, Dr. Charles P. Pollak, director of the Center for Sleep Medicine at NewYork-Presbyterian/Weill Cornell hospital in New York, replied, “ Yes, as far as we can tell” (2005). Most dreaming occurs during a type of sleep called REM sleep, for rapid eye movement, which Dr. Pollak explains is “ an evolutionarily old type of sleep that occurs at all life stages, including infancy, and even before infancy, in fetal life” (2005). There is no question that newborn infants have REM sleep and the rapid eye movements can be observed as they sleep. The two eyes move together, mostly side to side, but sometimes up and down. It is a well-based inference that babies are dreaming in REM sleep (2005).

A study in 2002 confirmed what research had been suggesting for years. One hundred and twenty pregnant women were asked about their ideas on infants’ dreams. Two interviews were undertaken, before birth and 1 month

after birth. The majority of women both before and after birth responded that infants dream. The reasons why they attributed dreaming to infants changed from before birth to after birth. At one month, these reasons were based on infant movements and behaviors, factors also taken into consideration by sleep researchers (as cited in Salzarulo, 2002).

Yet another question raised is why do babies dream? Derek P. Brereton found that *dreaming* facilitates the development, maintenance, and restoration of the self. The *infant's* high rate of REM activity can well be construed not only as serving the purpose of furthering the growth of an immature nervous system, but also as serving the function of forming *new* psychic structures (2000). Interference with the dream process has been found to lead to self-fragmentation. A procedure that highlights or accentuates the dream process helps restore psychic structures. Dreams have been found to also occur during non-REM sleep, but REM dreams have more significance and are more “single-minded” (2000). Dreams have been found to reveal more than they conceal, and the language of the dream shows the dreamer's current problems and often gives a resolution to such concerns. Dreams are believed to exist, are viewed as “poems,” and dream time equals real time and is not instantaneous. The same cells that trigger dreams affect dream form and content, and a dream is separate from its brain correlates. Dreams have therapeutic value, and they are believed to be pre-monitors of illness based on their signal detection capacity (2000).

As for the content of babies' dreams, Dr. Charles Pollak said, “That is like asking whether your pet dog or cat is dreaming, because they can not communicate, and you can't ask. We presume that infants dream infantile

things, but we don't really know what it is that they dream" (2005). " There is some evidence in adults that the direction of eye movement corresponds in a crude way to the content of the dream," Dr. Pollak continued. " If they are dreaming about walking in a field," he said, " the movement is most likely horizontal. If they dream of looking up at a building or climbing stairs, vertical eye movement is more likely to predominate. We can't go further than that" (2005). It is safe to be said that infants' dreams cannot be fully investigated because they cannot communicate their dreams to the researcher.

However, researchers have made suggestions about what they suspect babies dream about. Dreams appear to be a kind of parallel processing by which people integrate their experience, making new connections in our brains. In the uterus, babies probably dream about the muted light they see and the sounds they hear, such as heartbeats, voices, and music. After birth, perhaps they dream about the explosion of new sights, sounds, tastes, smells, and textures as they delight in getting to know their parents (as cited in Shaffery, 2005).

As for nightmares, most researchers believe these to be most common between the ages of 3 to 5 years, also known as the peak age for fears. Furthermore, they are said to begin around that time, or shortly before. Some researchers, however, contend that available evidence leads to a vastly different conclusion: that just like other dreams, nightmares are most common long before the preschool period (as cited in Shaffery, 2005). Stressful events, such as injections, circumcision, being left alone or dropped, or even feeling hungry, need to be learned about and integrated.

We know from older children that nightmares commonly follow surgery, tooth extraction, and motor vehicle accidents (as cited in Shaffery, 2005). Perhaps they even follow childbirth.

Knowing how much young babies dream, cry, and wake up crying, it seems absurd to me to believe that all of their dreams are happy ones. Birth is a wonderful and terrible experience (as cited in Shaffery, 2005). There is much to be happy about and much to learn about in the weeks that follow. Babies' dreams, like those of adults, seem as if they must incorporate and address those things that bring them pleasure and those that make them cry. In all likelihood, the peak age of crying, the first 6 weeks, is also the peak age of nightmares (as cited in Shaffery, 2005). These nightmares are not unsuccessful dreams. They help babies learn and grow. In fact, nightmares may even be an important reason that crying diminishes after 6 weeks (as cited in Shaffery, 2005).

Confusional arousals, also called night terrors, which babies occasionally experience, are an entirely different phenomenon. They are not nightmares. These happen when children get stuck between two stages of non-REM sleep. They might talk, scream, or open their eyes, but they aren't awake and they aren't dreaming (Shaffery 2005). During these episodes, the child is not dreaming and typically will have no memory of the event afterwards. The event itself seems to be a storm of neural emissions in which the child experiences an intense flight or fight sensation. Once it is finally over, the child usually settles back to quiet sleep without difficulty (Shaffery 2005).

One concrete, yet speculative, application of these ideas is to the phenomenon of SIDS (Sudden Infant Death Syndrome). Nearly two in every thousand births result in a death classified as SIDS. A huge amount of biological data has been gathered regarding this disease, but even so, researchers have been unable to arrive at a good explanation. George Christos has proposed an intriguing explanation based on dreaming (as cited in Cohen, 2003). During ordinary, non-dreaming sleep, the brain and the body are fairly well disconnected. During dreaming sleep, this disconnection becomes more extreme. However, even during dreaming sleep, however, some degree of brain-body connection remains. Active contact is maintained with the muscles regulating the eyes, the heart and the lungs. It is these connections, Christos claims, which are responsible for Sudden Infant Death Syndrome (as cited in Cohen, 2003). In a Stanford University sleep lab, an experimental subject was observed to actually hold his breath while dreaming about swimming underwater.

Similarly, Christos proposes, SIDS occurs when infants dream about being in the womb and, consequently, forget about breathing (as cited in Cohen, 2003). It is known that we dream about our past experiences, therefore, it is almost inarguable that, when an infant dreams during its first few weeks after birth, it dreams about the first nine months of its life: its life as a fetus. And this is eminently sensible in terms of the dreaming- as-forgetting hypothesis, since an infant really does need to unlearn its memories of the womb (as cited in Cohen, 2003). But if the body does tend to “enact” the contents of its dreams as much possible, then when the infant dreams about the womb, its body will re-enact its fetal state. And one distinctive quality of

the fetal state is the fact that breathing, in the usual sense, does not occur. Christos' hypothesis is then that cot death is caused by infants dreaming that they are back in the womb and consequently forgetting to breathe (as cited in Cohen, 2003).

In conclusion, it is obvious that babies dream. In fact, they are said to dream more than adults. The most unfortunate side effect of babies dreaming is that may cause of SIDS when the child dreams about being in the womb and forgets about breathing. However, this also provides further proof, if not inconclusively, that babies dream while sleeping. A brighter side to babies' dreaming is that it may even help in development progress. It is difficult to know what babies are dreaming about because they cannot communicate their dreams. Their dreams are probably triggered mainly by physical sensations. As babies continue to develop, visual images and sounds begin to play a role in dreams.

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