

Cosleeping: A Universal Human Phenomenon

AN ANTHROPOLOGICAL STUDY OF COSLEEPING IN THE MODERN WORLD

By

Sarah E. Nasatir-Hilty

Advised by

Professor Dawn B. Neill

ANT 461, 462

Senior Project

Social Sciences Department

College of Liberal Arts

CALIFORNIA POLYTECHNIC STATE UNIVERSITY

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Research Proposal

My senior project will assess cosleeping from cross-cultural and evolutionary points of view through the lenses of anthropology and biomedicine. In addition, I'll investigate health advisory warnings about the dangers of cosleeping issued by American pediatricians. My goal is to provide a thorough explanation of the emotional, psychological, and physical qualities of cosleeping, both for mother and child. In addition, I'll research infant physiology as it pertains to cosleeping and sudden infant death syndrome (SIDS). Breastfeeding and skin-to-skin contact are other big topics. The role of the EEA (environment of evolutionary adaptedness) in shaping anatomically modern humans and the continuously changing human environments will be evaluated. A recent study that analyzes infant mortality schedules from the 19th century will be included to give a historical perspective on infant sleep and SIDS rates. I'll look at rates of SIDS around the world in conjunction with sleeping practices (i.e. Japan and China).

For the second part of my thesis, I'll look at attitudes that promote the generalized fear and avoidance of cosleeping among the cultures of some highly industrialized nations, as well as the practice of having the baby sleep in a separate room from birth. I'll look at historical trends and the recent invention and luxury of multiple-roomed houses. I'll find public health advisories warning about the potential dangers of cosleeping, in addition to charged statements calling cosleeping murderous, as well as the backlash that follows. I hope to get a complete understanding of why cosleeping is stigmatized in countries like the US, and why after so many thousands of generations, we have made such a quick transition to such a radically different way of caring for our infants. Finally, the changing attitudes about cosleeping and the general public's newfound skepticism of the system that promotes advice so widely will be discussed.

I plan to use scholarly articles for most of my research base. So far I've found peer-reviewed articles on Jstor and on the American Academy of Pediatrics. I will also use print sources featuring James McKenna's work on cosleeping. I'll look at a few non-academic sources to find some of the press's negative broadcasting on cosleeping, such as stories of parents being called murderers for cosleeping and the general promotion of the idea that the bed is the most dangerous place for infants.

Thesis: Address the topic of cosleeping through evolutionary, cross-cultural, and biomedical points of view, explore the negative stigma of cosleeping in highly industrialized nations, and how cosleeping fits into the modern world.

Annotated Bibliography

Ball, H. L., Hooker, E., & Kelly, P. J. (1999). Where Will The Baby Sleep? Attitudes And Practices Of New And Experienced Parents Regarding Cosleeping With Their Newborn Infants. *American Anthropologist*, 101(1), 143-151. Retrieved January 29, 2014, from the Jstor database.

Ball, Hooker, and Kelly provide a background of James McKenna's cosleeping research. They talk about past and present objections to cosleeping, which include typical idea that cosleeping makes kids dependent, can be sexually arousing, over stimulating, and frightening for children, and can be harmful to the parents' relationship and lead to sleep problems for all. They state quotes from 25 years ago that reflect harsh stereotypes about smothering mothers and babies natural ability to sleep unattended. They look at cross-cultural research and patterns in Japan and Korea. Most importantly, they conduct their own research on attitudes of both expectant first time and experienced parents before and after the birth of their children, finding that far more parents cosleep than expected, especially according to the predictions of first time parents-to-be. This article will be discussed in the context of cross-cultural behaviors and parent attitudes in the UK, perhaps also to shed light on the fact that cosleeping is quite possibly more widespread than recorded.

D'Arcy, J. (2011, November 22). Co-sleeping with butcher knives: Are these Milwaukee PSAs overkill?. *Washington Post*. Retrieved February 3, 2014, from http://www.washingtonpost.com/blogs/on-parenting/post/co-sleeping-with-butcher-knives-are-these-milwaukee-psas-overkill/2011/11/16/gIQA7tmKiN_blog.html

This article was published in reaction to the city of Milwaukee's public service

announcement that claimed “your baby sleeping with you can be just as dangerous” and showed a baby lying in an adult bed with a huge butcher knife clearly within reach. The Milwaukee commissioner of health stated “Is it shocking? Is it provocative? Yes. But what is even more shocking and provocative is that 30 developed and underdeveloped countries have better [infant death] rates than Milwaukee”. In addition, the article reminds us that the AAP has reiterated its stance against cosleeping. Both ads are included in the article, both of babies sleeping with butcher knives in parents’ beds. The black baby is sleeping in the prone position (on stomach) and the white baby is sleeping on its side. Perhaps there is a message being sent out, since African American babies die of SIDS at a rate almost 3 times that of white babies, often from being placed on their stomachs to sleep. This article outlines some common misconceptions and uses fear as a way to control the actions of the general public. Unfortunately, it seems like ads like these only continue to shape the behaviors that led to high rates of SIDS in the first place.

Hauck, F. R., Signore, C., Fein, S. B., & Raju, T. N. (2008). Infant Sleeping Arrangements and Practices During the First Year of Life. *Infant Sleeping Arrangements and Practices During the First Year of Life*. Retrieved February 3, 2014, from

http://pediatrics.aappublications.org/content/122/Supplement_2/S113.full.html

This article was useful in two ways: for statistics on SIDS prevalence as well as background information about the “Back to Sleep” campaign by the AAP and a glimpse of their bias against cosleeping when discussing their findings. Both the recommendation for sleeping separately but in proximity to parents, as well as placing infants in the supine position for sleep was discussed. The article discussed only the unsafe environments such

as waterbeds and couches, but didn't mention environments made safe for infants, or allow the possibility that cosleeping could be inherently beneficial. The three main reasons for cosleeping were presented, as they conducted a large survey among mothers with infants at 3, 6, 9, and 12 months of age. This article will be useful when discussing SIDS statistics, as well as the AAP's recommendations against and attitude towards cosleeping.

Kemkes, A. (2009). "Smothered" Infants—Neglect, Infanticide or SIDS? A Fresh Look at the 19th Century Mortality Schedules. *Human Ecology*, 37(4), 393-405. Retrieved February 13, 2014, from the Jstor database.

This article contained a lot of good information about SIDS and the Trivers-Willard hypothesis. The article took a fresh look on 19th century child mortality cases and analyzed them using the information now available about cosleeping and SIDS. It found that given the seasonality and age of the deceased infants, the presumed infanticide, smothering or overlaying of babies can actually be attributed to SIDS. The article had good statistics about age, ethnicity, and socioeconomic factors that tied into SIDS prevalence, including studies of African American slaves in the 19th century. This article will provide good information about investment in children using the Trivers-Willard hypothesis, the age and seasonality patterns of SIDS, and implications of these findings for looking at SIDS today among different populations.

Konner, M. (2010). *The evolution of childhood: relationships, emotion, mind*. Cambridge, Mass.: Belknap Press of Harvard University Press.

Konner provides a very thorough cross-cultural comparison of the !Kung, who are the closest we can come to finding a traditional hunter gatherer society in today's world. Specific and thorough data was provided about !Kung sleeping patterns, skin to skin contact, nursing patterns, hormone changes of mothers, and overall physical contact. He also clarifies that there is no biological difference between humans living in industrialized nations and traditional hunter-gatherer societies. He gives a comparison of continual feeders versus spaced feeders, and explains why humans are continual feeders, and therefore the need to sleep in proximity with mothers. The invention of infants (and children) and parents sleeping in separate rooms is thoroughly a modern industrial invention that some wealthy and industrialized nations have adopted, while some wealthy industrial nations never abandoned cosleeping practices to begin with, such as in Southern Europe and Japan. This article will be extremely useful in explaining the biological aspect of cosleeping and humans' breastfeeding practices and necessities.

Lovett, E. (2011, November 14). Milwaukee Runs Provocative Ads to Wake Parents Up to Dangers of Co-Sleeping. *Yahoo! News*. Retrieved February 3, 2014, from <http://news.yahoo.com/milwaukee-runs-provocative-ads-wake-parents-dangers-co-213117311.html>

This article also quotes Bevan Baker, the city of Milwaukee's health commissioner. It also gives the infant mortality rates by race: white babies a rate of 5.4 deaths per 1,000 live births, and for black babies, 14.1, giving an overall rate of 10.4 for the year of 2009. The high rates of infant mortality have been called an 'infant mortality crisis'. The article states both negative feedback to the ad of parents who have coslept, as well as continued backing by the mayor, who reminds us that certain zip codes of Milwaukee has higher

rates of infant mortality than third world countries, and that even if the ads make people uncomfortable, its less uncomfortable than having another baby die from cosleeping, a cause that is ‘so preventable’. This article has a lot of good feedback and reactions to the highly polarizing ad from 2011 and can be used to support the views against cosleeping. It also can be used to identify the current gap in understanding and knowledge that many Americans have in thinking that our wealth should translate into lower infant mortality and overall better health conditions. Our ethnocentrism and foolhardiness lets us presume that third world countries are doing it wrong, when we are the ones who have so hastily departed from our EEA and sleeping habits.

McKenna, J. J. (1996). Sudden infant death syndrome in cross-cultural perspective: Is Infant-Parent Cosleeping Protective?. *Annual Review of Anthropology*, 25(1), 201-216. Retrieved January 29, 2014, from the Jstor database.

McKenna’s article highlights how much of what we think of as ‘normal’ infant development is based on sleep patterns and the ability to sleep alone from an early age. He talks about how it is highly reflective of our western values that value autonomy and individualism over familial interdependence. He writes extensively on the biological and physiological causes of SIDS as well as an epidemiologic overview of its prevalence among different cultures and demographics. He shares his findings from his cosleeping lab, which have profound manifestations in both mother and infant. Finally he shares that not a single study has found independent sleeping better for an infant’s health, but perhaps it is better for parents’ interests, cultural values, or expectations. This article will be highly useful when explaining the biological and physiological aspects of SIDS and

cosleeping as well as good material for a cross-cultural comparison.

SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment. (2011, October 17). *SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment*. Retrieved February 3, 2014, from <http://pediatrics.aappublications.org/content/early/2011/10/12/peds.2011-2285>

This article was put out by the American Academy of Pediatrics. It contains detailed information about safe infant sleeping positions and guidelines. It also includes some valuable information about the affects of nicotine on infant health and the brainstem, and how this can be a significant risk factor for SIDS. The guidelines include the practice of having infants sleep in the same room but on a separate sleeping surface from their parents. The reasons cited are infant strangulation, unsafe sleeping surfaces, etc., but neglect to mention anything about the positive affects of skin-to-skin contact. Although the advantages of breastfeeding are acknowledged, safe sleeping advice still includes putting the infant back to sleep separately after nursing. It states that all cosleeping efforts and research are inconclusive.

Small, M. F. (1998). *Our babies, ourselves: how biology and culture shape the way we parent*. New York: Anchor Books.

Small's chapter takes a behind the scenes look at McKenna's research methods, including his combined research efforts with physiology, infant neurology, and human sleep. Specific findings in his sleep lab are presented, which includes awake time, levels of sleep, and sleep position. One of the most surprising findings was that mothers who

coslept averaged five times as protective as mothers who didn't. The prevalence of different sleeping methods is looked at using anthropologist John Whiting's study of 136 cultures, which found that half of them slept with mom and baby in a bed and father somewhere else. Similar studies are discussed looking both at industrialized and unindustrialized cultures. Cross-cultural data is given about morals and, once again, the Japanese practice of cosleeping until the kids are teenagers. A similar background of the evolution of our solitary sleeping morals and fear of cosleeping is given, but in more detail. Finally, there is a discussion about SIDS prevalence, and it being the highest in the US, sleeping positions, and its range of prevalence across different cultures.

Trevathan, W., Smith, E., & McKenna, J. J. (1999). *Evolutionary medicine*. New York: Oxford University Press.

Trevathan, Smith, and McKenna explain that the changing environments of humans have had profound effects on health. They propose that human health will be far better understood if more was uncovered about the environments we lived throughout our evolution. This is the explanation of the EEA—the environment of evolutionary adaptedness. They suggest that the environments today are not at all like the ones of our past and that many of our behaviors and characteristics that evolved in our evolutionary history may have had adaptive significance then, but may even be maladaptive today. This article will be useful to provide a background of the EEA and relate cosleeping's prevalence and significance as an explanatory factor of risk factors of today's behavior that manifests as things like SIDS. For example, cosleeping has not cultivated the need for mechanism responsible for restarting breathing in deep sleep since a mother's (or

father's) touch would have prevented SIDS from occurring evolutionarily.

Trevathan, W. R., & McKenna, J. J. (1994). Evolutionary Environments of Human Birth and Infancy: Insights to Apply to Contemporary Life. *Children's Environments*, 11(2), 88-104.

Retrieved February 15, 2014, from <http://www.jstor.org/stable/41514918>

This article is extremely valuable for my paper because it discusses how the evolutionary past has shaped humans and how today's culture has a skewed image of what infants need. Human infants' dependence on mothers and caregivers is looked at and compared with nonhuman primates as well as elemental humans. Pediatrics research as well as our society's focus on independence and autonomy clearly shines through, as the false assumption that human infants are prepared and able to be treated with minimal contact prevails. Some other functions of today's society are discussed including overstimulation, the use and phenomenon of the walkie-talkie, and the practice of separating infants and parents. The origin of the idea of the autonomous infant are discussed, including the recent inventions of milk substitutes and multiroom dwellings, as well as the mix of ideological, religious, historical, and socioeconomic factors that have taught us as Americans to distance ourselves from our infants. There is a good cross-cultural comparison with Japan. Finally, there is the statement that if cosleeping was maladaptive and strangulation was common, it wouldn't have persisted in usefulness and practice today, which it clearly does.

Wiley, A. S., & Allen, J. S. (2012). *Medical anthropology: a biocultural approach* (2nd ed.). New York: Oxford University Press.

Wiley and Allen discuss some of McKenna's findings, as well as discussing cosleeping as a natural part of humans' EEA, stating that it would help regulate temperature and keep infants protected, as well as breathing. They also discuss cortisol levels in infants and children in depth, as then tie in the reduced levels of cortisol found in infants who coslept with parents. The American Academy of Pediatrics' concern about cosleeping is presented, and is ultimately boiled down to many risks that are associated with the adult sleeping environment that is thought to be deadly, a conundrum clearly modifiable.

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Cosleeping: A Universal Phenomenon

Introduction

Cosleeping is a modern name for an ancient phenomenon, as unbeknownst to most of Western culture, it and humankind evolved simultaneously. Cosleeping, simply put, is the practice of having infants sleep in close proximity to their mothers or both parents. In Western culture, this manifests most commonly in the form of bedsharing of parents and infants, but globally this practice is more universal and unfolds wherever a sleeping surface is available. This paper investigates cosleeping from evolutionary, biological, and cross-cultural points of view to gain a deeper understanding about its history and impact on humans. The impact of changing human environments on humanity will be a unifying theme. The ways that the environment has and continues to shape our biological functioning will be outlined. Cosleeping will be looked at not only as beneficial, but also as a protective mechanism for many dangers to human infants, including SIDS. Common perceptions and negative attitudes towards cosleeping will be examined, as well as some manifestations those attitudes.

Cosleeping has in the past been a relatively unexplored field of scientific study. Many anthropologists now recognize its widespread use in traditional cultures, and many industrialized cultures never abandoned cosleeping in the first place. Its presence is undisputed, but its influence is, at times, highly controversial. Today cosleeping is simultaneously accepted and vilified by Westerners. As we move through time, the benefits of cosleeping are seemingly made known, and many parents seem to be incorporating cosleeping into their infant care regimens. Practicum aside, cosleeping appears to have a range of benefits that have been highlighted with recent studies. The three biological benefits of cosleeping that will be discussed in this paper are

skin-to-skin contact, ease of breastfeeding, and potential for reducing the incidence of Sudden Infant Death Syndrome (SIDS).

Evaluation and research of cosleeping has not been easy, but since the 1970s, cosleeping has gained renewed interest by researchers such as James McKenna who seek to investigate its functionality, usefulness, and evolutionary basis. The most recent generation of parents in countries like our own has participated in a widespread acceptance of, as well as a dramatic outcry against, cosleeping. Given the privacy of the matter, it is hard to know how public opinion differs from actual sleeping practices. It is, however, arguable that the recently changing reactions to the topic of cosleeping can be credited to new research, positive cosleeping experiences by parents, and its relatively new status as a hot button issue.

This paper will also explore the predominant attitudes about cosleeping today based on cultural differences, varying levels of industrialization, and Western society's history of religious involvement. Broadly speaking, culture influences our attitudes, analysis of information, behaviors and traditions - it is constantly changing. Western culture in particular is shaped by a history of purist thought and an almost obsessive fear of spoiling our infants' innocence and safety – these lead to common perceptions and misunderstandings about cosleeping (Trevathan & McKenna, 1994). It is arguable that the general attitude towards cosleeping may have great impact on our nation's infants, and politics and public service announcements are geared towards changing behaviors that intimately affect our health the private lives. The system's way of permeating our private lives and guiding our thought processes will be looked at.

In addition, cultures such as the !Kung's infant care methods will be compared with those of our presumed EEA so we can get an image of how we might have all evolved. Specifically, cosleeping will be examined as a cross-cultural phenomenon in highly industrialized nations like



(Figure 1. Credit: Natural Motherhood, 2014)

the United States, the United Kingdom, and Japan. To make my arguments parallel, a comparison will be drawn between these countries and those of our presumed past, instead of between modern industrialized and unindustrialized countries. I will compare populations of nations of similar socioeconomic development to highlight the drastically different practices and opinions of cosleeping that still occur despite high standards of living. Specifically, the United States' vs. Japan's philosophies of childbirth and infant dependence will be discussed (Trevathan & McKenna, 1994). Finally, cosleeping's role in the modern and quickly changing world will be discussed. Our rapidly changing environments directly affect all humans, and cosleeping's role in the upbringing of infants remains as crucial as ever.

Infant Sleep Physiology, Evolution and Cosleeping Benefits

Human sleep is typically seen as a physical or biological process, but it has always had fundamental social aspects. Evolutionarily, humans have always slept in proximity with each

other and with their young – this has implied a relationship to safety and wellbeing. As described by ethnographers of the past and anthropologists today, cosleeping is seen almost uniformly among indigenous, hunter-gatherer groups. Today, many cultures of modern and industrialized nations still practice cosleeping, as do many developing nations. The social aspects attributed to cosleeping are typically based on intimacy of personal/family relationships, reduction of stress, enhanced attachment between mothers and infants, as well as the potential negative impact on adult relationships (e.g., less intimacy and sex) (Ball, 1999).

James McKenna is a world-renowned cosleeping expert who has spent the majority of his career working with mothers and children and studying cosleeping in the U.S. He operates a state of the art sleep lab in Los Angeles, was admitted as a Fellow into the select body of the American Association for the Advancement of Science (the world's most prestigious scientific society) and he received the American Anthropological Association's "2008 Anthropology In The Media Award" for work on TV, film and other news. He defines cosleeping as, "the nearly universal, species wide pattern of infant sleep, which involves infants and parents sleeping within sensory proximity of one another..." (McKenna, 1996, p. 202). The phrase 'sensory proximity' stands out as the key to McKenna's research and cosleeping as a concept. At the core of cosleeping is the physical and sensory contact between mothers and infants, one with a multitude of functions and adaptive mechanisms.

To fully understand how cosleeping impacts babies and their parents, we first have to investigate infant sleep physiology. The most defining feature aspect of human infants is their incredibly premature brain size and function at birth. The infant's brain is only 25% of its adult brain weight, "making the human infant the least neurologically mature primate of all primates" (McKenna, 1996, p. 207). We can think of early human development as a continuation of

pregnancy—in which the brain must continue to grow and develop, doubling in size during the first year of life. About 75% of brain growth occurs postnatally, which makes human babies fully dependent on caretakers, primarily mothers. Hence “for infants to survive...natural selection likely favored the coevolution of highly motivated caretakers on one hand and highly responsive infants on the other...” (McKenna, 1996, p. 207). The physiology of human infants makes attentive and attached mothering strategies highly advantageous traits, meaning that over time, mothers who took the best and most frequent care of their infants are most likely to see those infants survive. Over time, as McKenna says, this symbiotic partnership—parents highly responsive and infants finely attuned to send cues to their caretakers—worked beautifully. Many times, these cues are the very same as those we see today—crying for various reasons or nonverbal cues, such as gestures. These cues extend into the realm of sleep, and we can see that parenting doesn’t cease during times of rest.

Though the mystery of infant sleep is still being explored, researchers believe that infant sleep is controlled by a primitive or “older” brain stem located at the central base of the brain. This area is composed of clusters of different neurons that are thought to send messages out to different parts of the body that correlate to the function of sleep and wake patterns, including the heart, hormonal centers, lungs, muscles surrounding the ribs, diaphragm, and airway passages. One recent study suggested that the arcuate nucleus on the ventral surface of the brain stem monitors the correct balance of oxygen and carbon dioxide; a reduced number of binding sites may mean that SIDS infants may have a less than optimal or even minimal ability to arouse or reinitiate breathing following some sort of apnea or exposure to their own exhaled carbon dioxide if trapped (Kinney et al., 1995). Apnea, or a pause in breathing, may occur if infants fall

into a very deep level of sleep; developing brains don't have the full capacity to restart breathing (McKenna, 1996).

Cosleeping offers contact between infants and parents that provides a lifeline at times when infant brains are not yet equipped to respond to crises such as bouts of infant sleep apnea. "From both an evolutionary and developmental perspective then, parental contact and proximity with infants (while awake and asleep) can be seen to represent a developmental bridge for the infant, extending into postnatal environments the role that the mother played prenatally in regulating important aspects of her infant's continuing development" (McKenna, 1996, p. 207).

Skin-to-skin contact is the defining feature of cosleeping. From a physiological standpoint, skin-to-skin contact has the effects of "increasing the infant's skin temperature, stabilizing heart rates, and reducing apneas and crying, all of which are consistent with an evolutionary perspective on human infants develop optimally" (McKenna, 1996, p. 208). Because infants have developmentally fragile brains, we can understand why this would be so important for an infant. A simple touch from a mother has the ability restart an infant's stalled breathing. Alternatively, the fling of a sleeping baby's arm can alert the mother to distress—cues from both sides developed to help the pair sleep harmoniously and safely. "...human mothers and infants in the evolutionary past spent the first several hours, days, and weeks after birth in continual contact. Infants likely nursed whenever they wanted to and crying was probably rare except for illness or injury as it is for nonhuman primate infants today" (Trevathan & McKenna, 1994, p.7).

There is a significant difference between infant crying of the past and present. While cries are ultimately a plea of necessity, they may be perceived as an inconvenience or annoyance now, an option for parents to go check on their children. For most Westerners, there exists

certainty that no baby will succumb to hunger or fall prey to animal predators. Parents can choose to not check on an infant during the night and, most often, face no recourse. However, in the past, an infant's cries would have been more of a distress signal or a cry of danger, which parents would have undoubtedly taken seriously. "But given the human infant's evolutionary past, where even brief separations from the parent could mean certain death, we need to reconsider why infants protest sleep isolation and reinterpret its meaning. Surely infants are acting adaptively, rather than pathologically...Perhaps those who protest sleep isolation from their parents are among the most adapted infants and children at all" (Trevathan & McKenna, 1994, p. 13). The instinctual gut reaction for infants to protest solitary sleep cues us in to the fact that infants inherently dislike being separated from caretakers. The whole market of 'training your baby to sleep alone' is completely counterintuitive. When viewed through an evolutionary perspective, it is no surprise that parents face such an 'infant sleeping' dilemma, in which millions of years of evolution comes head to head with the modern convenience of the idealistic sleep schedule.

A brief example of skin-to-skin contact can be found in the !Kung culture of the Kalahari desert located in today's African nations of Namibia, Botswana, and Angola. By looking at the !Kung, we can get a look at more traditional ways that humans lived and orchestrated the enormous task of childrearing. The !Kung spend an incredible amount of time in direct physical contact with mothers and caretakers, which produces measurable effects on both. "All !Kung infants slept beside their mothers at night on the same skin mat at least until weaning. In interviews of twenty-one mothers with children up to age three, twenty reported waking up to nurse at least once a night, and all twenty-one said that in addition their infants nursed without waking them, from two to "many" times or "all night"..." (Konner, 2010, p. 397). This research

supports the notion that humans have evolved to sleep in contact with their mothers/caretakers. It is no evolutionary coincidence that infants are so amazingly adept at nursing throughout the night, nor is it a coincidence that these practices dominate in many cultures in today's world. This anecdote of the !Kung provides an account of the traditional practices that reflect humans' past. As will be explained in the next section, groups like the !Kung are seen as the modern representatives of our evolutionary past (Konner, 2010). It is then fair to say here, as in anthropology, that we can look at groups like the !Kung to gain understanding of how our human ancestors may have behaved in the past.

Not only has skin-to-skin contact been proven beneficial, the lack of skin-to-skin contact has been shown to be deleterious. Past laboratory studies have confirmed that for slow developing monkey and ape infants, who are our closest relatives, that "even short-term separation from their mothers induces deleterious physiological consequences such as loss of skin temperature, cardiac arrhythmias, depressed immune responses, and...in some cases, a reduction in the number of antibodies in the infants' blood" (McKenna, 1996, p. 208). Similar studies have been conducted on humans, whose physiological responses are not far removed from our primate cousins. From an evolutionary point of view, an infant left to sleep in a room alone and being largely disconnected from parents (save a visit or two throughout the night), would probably feel deserted and panicky. It is no great surprise that many infants respond poorly and have trouble sleeping—because biologically they are embarking on solo journey they may not be equipped for. Perhaps it is not such a huge leap to say that leaving infants to be solitary for 9-10 hours a day can be detrimentally stressful, nor does it make sense with our next topic, that of the art of breastfeeding.

Humans are part of a larger group of mammals that produces a distinct type of breast milk. Humans are classified as being in the category of continual feeders, which follow a pattern of slow and long periods of breastfeeding. "...continual feeders have dilute milk, with lower fat and protein content, and suck slowly: spaced feeders have concentrated milk and suck rapidly. The lipid and protein composition and sucking rates of higher primates, including humans, are consistent with their classification as continual feeders. This is the case for most monkeys, chimpanzees, and human hunter-gatherers" (Konner, 2010, p. 399). This pattern is consistent with cosleeping, which enables infants to suckle as on demand, and can also occur without mother or baby waking up. The more we know about humans' breastfeeding patterns and human breast milk production, the clearer it becomes that cosleeping and human breastfeeding coevolved. Breastfeeding, human infants' immature brains, and cosleeping can therefore be seen as complementary pieces of an evolutionary puzzle.

The Environment of Evolutionary Adaptedness

Throughout this paper, the concept of humans' environment of evolutionary adaptedness (EEA) is used to describe the environment in which modern humans, *Homo sapiens sapiens*, evolved. Using genetic research on modern human populations, the analysis of ancient DNA, and fossil evidence, the emergence of anatomically modern humans in Africa has been targeted to sometime between 195,000-150,000 years ago (James & Petraglia, 2005). The EEA is used to describe the conditions that shaped us into what we are now, including our physiological processes and natural rhythms. Our bodies perform optimally in accordance with a hunter-gatherer lifestyle, as all humans did until the advent of agriculture, which began roughly 12,000 years ago. However, the great majority of human societies didn't transition to agricultural

societies until significantly later, and many still lived in hunter-gatherer societies at the time of contact or colonization. The few pockets of humans who still live today as close to they have always lived are hunter-gatherer groups and agriculturalists exist in secluded regions of Africa and Latin America. These people include the !Kung, as talked about before, who give us the best idea of how all humans used to function.

As stated by anthropologist and neurobiologist Melvin Konner, “It may be that the context of socialization in hunting-and-gathering societies is a “natural” one for development in our species, since these societies represent our environments of evolutionary adaptedness (EEAs)... There is no important biological difference between modern human hunter-gatherers and the inhabitants of modern industrial states” (Konner, 2010, p. 399). Many common societal human ailments may therefore be the result not of changing biology, but of changing health-related human behaviors. If removed from the context of evolution, human health and function means little. Not to say that we don’t know much about the way humans function—we live in the golden era of scientific knowledge and advanced medicine, but that removed from the knowledge of our evolutionary roots and our EEA weakens our inventions and undermines the power of our cures.

Viewing health through an evolutionary point of view is an insightful vein to understanding how we can best suit ourselves to changing environments, times, and attitudes. “The changing human environments had profound effects on health. A better understanding of many modern health problems will emerge when we consider that most of human evolution took place when our ancestors were gatherer-hunters...Biologically, and perhaps behaviorally, we are gatherer-hunters, but clearly most of us do not live that kind of lifestyle. In fact, many of the characteristics and behaviors that evolved in that 95% of our evolutionary history had adaptive

significance then, but may even be maladaptive today” (Trevathan et al., 1999, p. 5). To give an analogy, it has been said that “we are running twenty-first-century software on hardware last upgraded 50,000 years ago or more...” (Wright, 2005, p. 35). It can come as no great surprise that human health is constantly in flux.

The great variety found in current human adaptation in the most environmentally altered context of human history (i.e., the industrial age) affects health. For example, replacing gathered (necessarily organic) food rich in fiber with processed, calorie dense foods, as well as replacing walking and active lifestyles with sedentary jobs and dependence on cars comes with consequences. The human adaptation that allows us to store energy efficiently could have meant the difference between life and death for humans living in the EEA. It would have helped spread out energy during times of famine, but now it can cause more harm than good for people living in countries with plenty of resources. The radical change of human environments and food consumption patterns manifests in a multitude of problems including high rates of obesity, cardiac disease, cancer, and others (Neill, 2013).

Sleep is another aspect of human health and wellbeing that has changed dramatically in the past few hundred years. Human environments have changed rapidly since the industrial revolution began, and most certainly since the start of sedentary lifestyles. For all of human history, humans have slept in contact with one another. “The species-wide, “normal” context of maternal-infant sleep is social...infant-parent cosleeping represents the evolutionarily stable and most adaptive context for the development of healthy infants...”(McKenna, 1996, p. 213). In the past, the bed was no more than a mat on the floor, it was not uncommon for multiple family members to sleep together. Especially in cold climates, there is no doubt that families utilized body heat to brave winters and nights. Today we have access to a great variety of bedding

options, some of which may actually be detrimental to our nation's infants. As will be discussed further on, bedding plays an important role in infant sleep, and has, in some cases, been linked with SIDS.

In a select few places in today's world, families can afford to live in big houses with multiple rooms, and can for the first time effectively separate parents from infants. While humans have always had a vast array of social and sleeping arrangements, many of which had infants sleeping with women and older siblings, and men alone, the modern era is the first time that children have been effectively isolated for sleep. Today, many citizens of wealthier countries may occupy larger dwellings. With certainty, we know the phenomenon of a four-bedroom house is a new one. However, in many places today, despite rising economic status and larger houses, cosleeping was still never abandoned. These parents arguably employ a more stable adaptation by helping their infants bridge the gap to modern times. By employing cosleeping, parents are able to both get sufficient sleep and offer around the clock protection and nutrition for their young.

Cosleeping and SIDS

Sudden Infant Death Syndrome (SIDS) has remained throughout time a particularly recurrent and evasive medical phenomenon. Its prevalence is increasingly acknowledged, yet its causality remains mysterious. Recent studies have helped researchers gain a better understanding of possible contributing factors to the disease, but a full understanding is still not available. Cosleeping has been recently presented as a possible avenue through which SIDS can be tempered and for some infants, prevented. SIDS is defined by the National Institutes of Child Health and Human Development (NICHD) as "the sudden death of an infant under one year of

age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and a review of the clinical history” (McKenna, 1996, p. 203). SIDS is also known as cot or crib death, and is unique in its prevalence concentrated to such a specific age range. “Ninety percent of SIDS deaths occur before six months of age, mostly between two and four months; rarely do such deaths occur beyond 12 months of age. In all societies studied to date, boys die more frequently from SIDS than girls” (McKenna, 1996, p. 203).

Researchers still don't know with confidence what causes SIDS, but it is thought that it is related to the control of breathing and/or arousal during sleep. By monitoring oxygen levels, breathing, heart rate, body temperature, and arousal responses that are required after infant breathing pauses or apnea, the cardiorespiratory system is thought to collapse (McKenna, 1996). Judging from what we already know about infants' relatively vulnerable brains and underdeveloped sleep arousal abilities, it is fair to link the two together. There are thought to be many risk factors that contribute to the occurrence of SIDS, many of which are unfortunately hard to detect and may only be subtle deficits. Some potential risk factors include lack of breastfeeding, sleeping face down (prone position), and infantile hyperthermia (high body temperature), which is induced by atmospheric temperature, humidity or overheating from excessive bundling up (McKenna, 1996).

James McKenna's studies, including one extensive study funded by the National Institute of Child Health and Human Development (NICHD), employed novel methodology by studying 35 pairs of mothers and three-month old healthy, exclusively breastfed infants - all were either routine bed-sharers (cosleepers) or solitary sleepers. Polysomnographic machines were used to monitor EEG, eye movements, breathing and heart rates of mother-infant pairs simultaneously

throughout the night. The infants' body temperatures, oxygen saturation levels, and nasal airflow rates were also monitored. On the first night in the sleep lab, the pairs slept in their usual sleeping arrangements, and on the second and third nights, the pairs alternated between normal conditions and opposite conditions—bed-sharers slept solitarily and solitary sleepers coslept—with capture of auditory and video (using infrared camcorders) information. Overall, the method, depth and breadth of the work set a precedent in this area of research.

The findings of McKenna's studies were threefold: "(a) bedsharing mothers and infants exhibit high levels of arousal overlap...; (b) infants exhibit more frequent stage shifts, i.e. they move from one state of sleep to another, or awaken more frequently, while bedsharing and spend more time, at the same time, in the same sleep stage (stages 1-2, 3-4, or REM) or awake condition as their mother, compared with when they sleep apart from their mothers; and (c) compared with when they sleep alone, bedsharing infants spend less time in deep stages of sleep (stage 3 or 4)..."(McKenna, 1996, p. 211). This frequent transitioning between sleep stages allows infants to develop the mechanisms required to prepare them for the later development of deep sleep, which is when SIDS is thought to occur. With cosleeping, mothers effectively regulate their infants' protective sleeping mechanisms. It was also found that during bedsharing nights, infants almost always faced their mothers, doubled their number of breastfeeding episodes, halved their breastfeeding intervals, and tripled their breastfeeding duration on average. By watching videos, it was also shown that mothers almost always placed their infants in the supine (back) position, which enabled them to drink milk, and also allowed for a greater range of motion that could be used to wake the mothers and control their environments by flinging blankets off (McKenna, 1996). These findings are perfectly in line with the data about the

presence of mothers in cosleeping environments, who appear to serve as nocturnal advocates and safety nets for the infant's unspoken needs and comforts.

McKenna's research has some potentially useful information that pertains to the reduction of SIDS prevalence. In the context of cosleeping, infants could better adapt to their mothers' sleep and arousal patterns. These sleep/arousal cycles are the mechanisms that allow infants to wake up from deep sleep, and in the case of solitary sleepers, it is possible that infants will develop deep sleep patterns before they develop the protective mechanisms to keep themselves safe from them. Another crucial aspect of cosleeping is the frequency and duration of breastfeeding that is made available, which has been relatively widely recognized as a protective factor against SIDS. Breastfeeding is more than just nutrients - it additionally provides time for bonding, psychological and emotional support, and skin-to-skin contact. As such, infants whose mothers do not breastfeed miss out on 'the whole package' breastfeeding entails.

Other risk factors, which include overheating because of atmospheric temperature or excessive blankets or bedding, are both preventable but tricky issues that would be partially eased with the help of cosleeping. Human infants are designed to sleep in proximity with their parents have developed apt mechanisms to enable cosleeping in a safe manner. "While it is, of course, possible to suffocate an infant by rolling over on it, especially by irresponsible parents desensitized by drugs or alcohol, under normal circumstances it is very difficult to do so and probably no more likely than an infant strangling itself in a crib...Infants are very strong and vocal when their oxygen is threatened" (Trevathan & McKenna, 1994, p.101). Also, cosleepers would share body heat and be able to regulate temperature better. Excess plushy or heavy bedding, which has been credited with suffocating infants, would be required less in the presence of cosleeping.

As mentioned before, the causality of SIDS is still unknown, but extensive research has shown that both environmental and genetic factors come into play. Separating nature and nurture is impossible, but working with genetics by altering environments is a solid strategy. “The known genetic mutations under study still account for only a small percentage of SIDS cases, suggesting that SIDS is both a heterogeneous disorder (meaning there are many possible causes) and that the environment (including sleeping environment) plays an important role in modifying SIDS risk” (Wiley & Allen, 2012, pg. 189). While we cannot do anything about the genetic factors passed down through the generations, we can alter the environments in which we raise our infants. Some studies suggest that placing infants in the supine position rather than the prone (belly) sleep position, SIDS could be reduced by as much as 90%. Other factors that may reduce the occurrence of SIDS are the absence of maternal smoking, breastfeeding, increased infant holding, maternal responsiveness, and cosleeping (McKenna, 1996). It is fair to say that responsive mothers are also the mothers who already take as many precautions as possible, and that mothers who may smoke, use other substances, and/or (un)intentionally place harm in their baby’s way are the same as those who don’t take all the precautions set out by today’s practitioners.

Industrialized versus non-industrialized nations display a different pattern of the much-feared infant killer SIDS. “...those places where cosleeping is not the norm are those that also have the highest rates of SIDS (the United States, European countries, Australia, New Zealand). It is a reasonable assumption that during the EEA human infants coslept, and cosleeping is routine in our primate relatives. A solitary sleeping infant would be an easy target for a predator, not to mention that a nursing baby at night is less convenient if the parent has to awaken and walk to get to the baby. At the time McKenna published his article, the population that

experienced the highest rates of deaths attributed to SIDS were African Americans and Native Americans, many of which had children before the age of 20, and often reported smoking during pregnancy, were unmarried, and often lacked access to adequate prenatal care. Groups with some of the lowest SIDS were those of Asian, Swedish, Finnish, Norwegian, English, and Israeli descent, in which many mothers were slightly older, usually did not smoke during pregnancy, and usually placed their infants in the supine or side position for sleep. Asian parents in particular were shown to sleep in near or direct contact with their infants for the first six months to a year after birth, often breastfeeding intensively. 18% of infants who later died of SIDS were underweight at birth, which once again brings up the presence of SIDS risk factors that may be at play with less than optimally healthy infants (McKenna, 1996).

The American Association of Pediatrics (AAP) and others' recommendations may help establish safe guidelines for infant care and sleeping practices, but they are not a 'solution' to the dilemma. They may deter parents who would otherwise cosleep with infants. Sleep practices begin at a point – with genetics of the infant and parental behaviors – and then nature and/or nurture events sequentially move the infant on slightly different natural selection paths. Theoretically, all infants have the same chance and inherent risk factors for developing SIDS, but perhaps those in Western cultures who are separated at night and disallowed to breastfeed for long periods of the time are those who succumb to SIDS. Meanwhile, infants with some potential SIDS factors in other cultures who are afforded the luxury of more skin-to-skin contact and parental protection may be able to cruise safely through infancy.

SIDS and its relationship to historical developments deserves more analysis. In one meaningful historical epidemiological study “Smothered Infants—Neglect, Infanticide, or SIDS? A Fresh Look at the 19th Century Mortality Schedules”, Ariane Kemkes investigates recorded

infant deaths from the years 1850-80 to determine whether deaths attributed to smothering or overlaying “followed SIDS trajectories”. What emerged in her research was the finding that these deaths had many striking coincidences with SIDS infant deaths: victims usually died between 2-4 months of age, were more often male, followed the SIDS seasonality, and even had marked differences between races. Her comparison provides empirical evidence that these 19th century deaths in the U.S. could be attributed to SIDS (Kemkes, 2009). Kemkes’ research brings forth an important notion—that is that SIDS is not a new phenomenon and that the presumed dangers of cosleeping—which are overlaying and smothering infants—existed then as they do now. Her insight and discovery that SIDS can be named the culprit for infant deaths a century and a half ago strengthens our case that cosleeping isn’t inherently bad, and that SIDS and cosleeping share not a synonymous relationship, but an antonymous one. Furthermore, the fact that such succinct patterns of these SIDS deaths existed nearly 200 years ago raises other relevant historical questions: Is SIDS a larger and possibly systematic problem? Is the detection of SIDS ‘better’ now based on other cultural and/or communication factors? Is SIDS or the behaviors leading toward SIDS now better studied than they were previously? The more that is learned about SIDS in the future, the better chance we have of ameliorating its affects. It seems one of the best ways to do so is cosleeping, with precautions in place, which can help us return to the ways in which we evolved.

The changing human environment is pertinent to these ideas. We know with certainty that basic human biology and physiology hasn’t changed over the last few hundred years, which makes human environments the key factor of change. As we’ve discussed, humans have moved from the floor to the bed, and infants have moved from the parental bed to a sleep environment of relative isolation. Has a genetic predisposition to SIDS always occurred in human

populations? If so, cosleeping would have acted as a protective factor, which simultaneously functioned in many other protective ways. Perhaps SIDS was never considered as a threat in times predating solitary sleeping and/or a system that could efficiently classify SIDS as a distinct entity. With the rise of religion and the expansion of human housing in much of the Western world, mortality schedules, like the ones Kemkes analyzed, began to produce succinct patterns. From there, it took 200 years for scientists to connect the dots – that the striking resemblance of the 19th century infant deaths to SIDS was due to the fact that they were likely linked in causality. After all this time, cosleeping had been a clever adaptation to prevent SIDS, in addition to its many other protective functions.

Cosleeping in Western Culture

Cosleeping is a topic that is increasingly seen in today's media. In the United States, it seems that more parents are now taking matters into their own hands by researching options for infant sleep practices. Today, a lot of time, energy, and money are spent to convince parents to avoid cosleeping, often using fear tactics and outdated information. The roots of these notions are centuries old and continental in breadth, often coming full circle on our theme of personal independence, even for infants. In Western culture, cosleeping is often seen as being “inherently unhealthful, psychologically damaging to the infant or child, and potentially threatening to the husband-wife relationship...the ability to condition infants and children to sleep alone throughout the night, as early in life as possible, is a developmental goal around which both infant-child maturation and parenting skills are evaluated and rated...Western industrial values seem to favor early autonomy and individualism over familial interdependence” (McKenna, 1996, p. 202). There are three main veins of the anti-cosleeping argument: the physiological

damage, the toll on parents' relationships, and the notion of untailed dependence of infants and children.

Science is inherently based upon, and biased by, cultural values and parameters. The process of scientific research is inherently social via the processes of learning, collaboration, and peer review (Montello & Sutton, 2006). Cultural and institutional contexts 'shape' science by defining what the 'acceptable' behaviors are and how they are studied. The principle way that science is shaped by culture as it pertains to cosleeping is the assumptions surrounding infants' perceived independence. "In western society it is clear that psychological, developmental, clinical, and pediatric research begins with the false presumption that human infants are, at birth, prepared to be independent (socially, psychologically, and physiologically) and that, in fact, it is in the infant's best interest for parents to practice forms of care which minimize various forms of physical contact—especially sleep contact" (Trevathan & McKenna, 1994, p.93).

The lifestyles that Americans pride themselves on, which often revolve around work and productivity, demand more time away from their children and infants. This often leads scientists to define the "best biological interests of their infants and children according to the social interests of their parents...scientists push too far the notion of the infant's physiological independence from its caregivers, confusing the infant's preparedness to adapt with actual adaptation, and confusing widespread underlying cultural assumptions with established scientific facts" (McKenna, 1996, p. 202). The bulk of cosleeping and infant sleep advice comes from professionals who tailor their advice to parents who are framed within their own culture (as we all are), and in many ways are just seeking the advice they want to hear.

As discussed previously, the AAP has released official recommendations that detail ways that parents can make the sleeping environments of their infants safer, recommendations that

specifically excluding cosleeping. Such a dependable and highly reputable source clearly holds a certain amount of clout for parent decision-making and infant care. While these recommendations clearly come from a place of good intentions, the ramifications and impacts require some deeper interpretation. Perhaps it is these ‘good’ intentions and popularized recommendations that result in parents overdoing it with their efforts. There is some reason to believe that infant care has become institutionalized during its transmission between the generations. Instead of learning how to take care of infants from family and community members, we take on yet another pursuit in an individualized manner, as it parallels our belief that infants should be made independent at an early age. In some regards, our industrialized culture might actually cause some individuals more harm than good, including infants who may already be at risk of falling prey to SIDS.

The term ‘cosleeping’ carries significant latent meaning and invokes a range of responses. Our culture often dictates how we respond to issues that lie beyond our comfort zone. Those who have an immediate negative gut reaction to the term may be comfortable with acting according to the work of others, rather than investigating the topic first-hand. Valuable childrearing practices of the past might have been lost permanently when many Westerners switched to solitary sleeping. “An evolutionary perspective forces us to ask: To what extent do we push some fragile infants to their adaptive limit and beyond? To what extent have our subconscious cultural ideologies limited developmental research to questions aimed at confirming who we ‘want’ infants to be, rather than to questions aimed at discovering who infants really are?” (Trevathan & McKenna, 1994, p.93). The roots of solitary sleeping are rooted in the poignant Western ideal of individualism. We live in a capitalist, every-man-for-himself culture, one that is also applied to our youth. While independence is not inherently bad,

one has to wonder if making it important from birth causes more harm than good. Placing infants apart from their parents, as much of our culture deems correct, it seems that Western culture may be doing itself a disservice.

The basis for solitary sleep is hundreds of years old and laden with subtle meaning. The earliest notion of a ban against cosleeping that we can distinctly recognize was France in the 1600s, in which the notion of the sexual purity of children became popularized and cosleeping became controversial. Furthermore, the Catholic Church undoubtedly contributed to the protection of purity (as it still does), and solitary sleeping was thought to prevent accidents or sinful behavior, especially as incestuous stories of fathers and pubescent daughters coming to confession were revealed. As time continued, romantic love became more widespread, as opposed to political and arranged marriages, so the parental relationship became the central element in the family dynamic. During Freud's time, the infant was seen as a threat to the parental relationship. Another famous body of thought included the Oedipal complex, which clearly supported the notion of solitary sleeping practices (Trevathan & McKenna, 1994). Finally, of course, the most common hesitation for parents today is the perceived danger of infant suffocation that is commonly associated with cosleeping.

The fear of infant strangulation has legitimate roots stemming from poverty-stricken England and France in the 17th century. Back then, strangulation became a method through which parents practiced the only real method of birth control that was available at the time: infanticide. Strangulation of infants did occur, but nearly always it was intentional. In many areas where parents could not afford to feed more than one child, intentional infanticide was used, after which the parents tried to avoid charges by claiming they had rolled over on their infant while sharing a bed. Many parents were sent to prison for sharing beds with infants during

this era, mainly in an effort to prevent infanticide, which was rampant at the time (Trevathan & McKenna, 1994). The difference between the suffocation of infants in this setting was that 300 years ago, suffocation was intentional, whereas the parental bed today is safe from this threat. As discussed above, we know that sober, healthy mothers and infants do very well in cosleeping environments. This brief period of poverty that led to the killing of infants masked in the disguise of accidental suffocation effectively tainted the water and caused generations of skeptical and fearful parents. The fear invoked by this phenomenon serves as a powerful tool even today. Even today, the fear invoked by the thought of accidentally murdering one's child remains intact for many. The common fear we have today of suffocating our infants is one exacerbated by fear, socialization, and ideology, not facts. Once again, it seems that Western culture has been led astray by an event that happened in a different context, often with the guidance of a religion-infused government.

Another story, similarly fear-invoking, dates to November of 2011, when the city of Milwaukee released a public service announcement that featured two photographs of babies sleeping in plushy, parental beds with very large butcher knives within reach (see Figures 2 & 3). They featured the phrase "your baby sleeping with you can be just as dangerous". Not surprisingly, the public service announcement sparked a national debate about cosleeping and SIDS with raised voices from both sides. The ads, outrageous as they are, were presumably released in an attempt to make sleeping environments safer for babies in the area, seeing as Milwaukee has a very high rate of SIDS. However, the ad strikes a raw nerve and offends parents who do safely practice cosleeping, as well as furthering the power of the taboo of cosleeping. The ad speaks volumes about the politicians who released the ad as well as their target audience. The politicians who ran this ad, most importantly the health commissioner of



Figure 2. Credit: Washington Post.

Milwaukee, clearly underestimates the city's populace and their ability to make decisions. Nowhere is it more clear to see how removed some of our population is from the truth about cosleeping. The ad makes clear that a cheap shot such as this the potential to manipulate the American public. The disconnect from reality in regard to infant sleep patterns may shed light on a greater disconnect, including parenting, health, and overall wellbeing. That results in even greater societal ills. If such a blatant ad is expected to make an impact, then we have a seriously warped opinion about our

populous. The immediate response provoked by the ad does, however, give us some hope about the status of the nation's level of attention paid to such issues.

To make matters worse, the Milwaukee Commissioner of Health quoted, "Is it shocking? Is it provocative? Yes. But what is even more shocking and provocative is that 30 developed and underdeveloped countries have better [infant death rates] rates than Milwaukee" (D'Arcy, 2011). His quote reveals just how ignorant some Americans are about health related issues, as well as how ethnocentric some people are about their belief systems. This quote by someone in a position of power and leadership further inspires this type of ignorance, as well as justifying our rather ethnocentric American beliefs. By proposing that because America is a rich (and



Figure 3. Credit: Washington Post.

non-Western countries have lower SIDS rates than Western country, a pattern not to be overlooked.

The spark that ensued after the Milwaukee PSA was broadcasted showed that many Americans seem invested in fighting for what they believe in regards to infant care. As discussed before, it is arguable that America is facing a changing of times and perceptions with regards to cultural sensitivity and health practices. Hopefully Americans will continue this upward trend to realize that being the richest country does not make our ills any less serious, and perhaps that our modern comforts and adjustments might be the cause of those evils. As more Americans travel and broaden their horizons, the grip of ethnocentrism will slacken and issues such as cosleeping

presumably mostly white) nation that it should have figured out the reasons behind problems like SIDS is highly ethnocentric. It is both racist and elitist to believe that our rank as a global leader should necessarily mean that our societal or health-related ills are less pervasive. In reality, those third world countries and other developed nations that have lower infant mortality rates than the US probably earned them by never ceasing the cosleeping practices to begin with, as with many other traditional health practices. Here, once again, we see evidence that

will hopefully be viewed through more of a cross-cultural lens. In fact, Americans could learn a great deal by investigating how other countries go about a great number of things that tend to be 'hot button issues' domestically.

Cross-Cultural Perspective

The final way we will investigate cosleeping is through cross-cultural comparison. Despite anthropology's deep-seated love of cross-cultural comparison, we must realize that no two cultures can be accurately compared, as per cultural relativism, illustrated by Franz Boas, the father of modern anthropology. Since every culture is characterized by a unique set of historical events and cultural traits, it is impossible to accurately compare different cultures, but for instances like this, we can look at the different expressions of a phenomenon. For cosleeping, we will take a look at Western culture (U.S. and U.K.) as compared with Japanese culture, as well as a few enclaves of Asian cultures who have emigrated to the United States and England.

The comparison of Western and Japanese culture on cosleeping reminds us that culture 'is everything and dictates everything that we do'. We cannot separate human culture from human behavior, and we have here an example of how culture leads to behavior. When we apply this logic to our own culture and behaviors, we see that the perspective we have on cosleeping, and a wide range of other cultural behaviors, is learned. Looking at a different culture from an outsider's point-of-view is helpful. By doing this, we see attitudes - and perhaps entire worldviews - about cosleeping are different. Therefore, a dominant force in the decision-making process for infant care and cosleeping versus solitary sleeping *is* culture. (For the purpose of the comparison, we will say that Western culture features a majority of non-cosleepers.) This belief

is so finely engrained that we let it dictate the upbringing of our children, which begins with the almost immediate separation from parents.

In Japan, where mother-infant cosleeping on futons is the norm, current SIDS rates are among the lowest in the world, around 0.3/1000 births (McKenna, 1996). The attitudes towards cosleeping and infant rearing are essentially opposite from those in the United States. “For example, interdependence and group harmony are two values positively sanctioned in Japan where cosleeping occurs in large measure to create a social environment which fosters the very kind of socioeconomic interdependencies which Americans attempt to inhibit or suppress” (Trevathan & McKenna, 1994, p. 100). The Japanese belief in the integration of infants from birth is one that ultimately affects the entire childrearing process. By constantly drawing infants into the family dynamic, Japanese cosleeping infants are granted a safer and more stable infancy, which probably has a great deal to do with their exceptionally low rate of SIDS. “In Japan the infant is seen more as a separate biological organism who, from the beginning, develops better by increasingly interdependence with others. In America, the infant is seen more as a dependent biological organism who, in order to develop, needs to be made increasingly independent of others” (Trevathan & McKenna, 1994, p. 100). The primal difference between Japanese and American culture manifests in opposite methods of infant care and cosleeping. While we cannot rule that one is superior, we can trace American solitary sleeping back to the cherished value of independence. Japan, by retaining their value of familial interdependence, employs the more protective infant sleep method.

Another Asian culture seems to follow the pattern of Japan, featuring the norm of cosleeping and very low rates of SIDS. Hong Kong, despite a context of relative poverty and overcrowded conditions, it was found that SIDS rates were 0.036/1000, or “approximately 50-70

times less common than in western societies...this finding is even more surprising because breastfeeding is not common...although cosleeping and the supine sleeping position for infants still represent the cultural norm..." (McKenna, 1996, p. 208). Also, in Hong Kong, despite the lack of breastfeeding, there is a low level of SIDS. While this sounds a little bit unusual, given the setting of a poor and crowded area, perhaps the norm of cosleeping is the key factor in protecting infants against SIDS and other ills in this environment. Also, strong mothering behaviors might be responsible for giving their infants a great 'developmental bridge' into their toddling years.

Similar studies have also shown that Asian ethnic groups have low SIDS rates even after emigrating to new countries. A study of Asian immigrants in Western (non-cosleeping) cultures has showed that they often continue their cultural practices and methods of infant care, most importantly retaining cosleeping. Studies of Indian and Bangladeshi families in England and Wales have supported this hypothesis, and shown that infants from families like this have very low rates of SIDS, in fact, much lower than the average of the country they move to (Ball, 1999). The common denominator here may be the retention of infant care and cosleeping practices, which have a direct effect on the infants' wellbeing despite their relocation.

In a similar transatlantic context, an interesting study conducted in California of Asian American groups revealed that the time a family had been in a country could lead to changes in health. This parallels health behaviors, help seeking, and descriptions of the experience of illness, perhaps (e.g., first- vs. second- vs. third-generation born members). In emigrated Asian families in California, a range of low (0.9/1000) to high (1.5/1000) SIDS deaths that was directly correlated with the length of time the family had been residing in the US (McKenna, 1996). It is hard to know what aspects of health and upbringing change the most with time, but it does reveal

that nurture, not nature seems to be at play here. If Asians were genetically different from Americans, it wouldn't matter where they resided, they would still feature a low SIDS rate. However, in their move to the United States or United Kingdom, their behavior, infant care practices, and health seem to be the variables of change. Since we saw that Asian immigrants in the English and Welsh study retained cultural practices and low SIDS rates, while some Asian Americans changed their childcare practices and witnessed a rise in the incidence of SIDS, childcare practices seem to be a pervading factor.

Similar findings of South Asians in the United Kingdom, Asians in the United States, and even Americans in Appalachia keeping their past infant care practices and cosleeping norm support the fact that cosleeping is of cultural descent. Especially in the case of Americans in Appalachia never having given up cosleeping, we affirm that cosleeping attitudes and practices are ideological and learned, not intrinsic, like some would like to lead us to believe (Small, 1998). As childcare is a culturally transmitted, it is arguable that our culture directly impacts our health. Furthermore, since politics and national health systems undoubtedly impact our culture and healthcare availability, we see that we are part of a system that is slightly out of our grasp. Along with culture and politics, our worldview is the other major player that influences the health of our nation and our infants. As we saw in the Japanese study, their immediate incorporation of infants into the family structure necessarily called for cosleeping arguably gave them a stable infancy and prevented SIDS from claiming at-risk infants. On the other hand, the American ideology rooted in individualism and separateness creates a norm of solitary sleeping practices, which can be detrimental to infants who are already weakened, premature, or at risk in some other way to falling prey to SIDS.

Conclusion

Cosleeping is just one aspect of many to be newly reinstated to the ongoing health debate. Amidst changing times and across the world, cosleeping has always been, and for many, continues to be the defining feature of infant care, one which has strengthened and stabilized human and primate infancy. While for most, cosleeping does not mean the difference between life and death, for a great deal of infants, it can be the best way to combat infant maladies such as SIDS. While most citizens of industrialized countries don't need to worry about any immediate life or death threat, in the past, humans have needed every strategy possible to stay apace with natural selection. The human adaptation is the most robust on the planet, and part of this development can be attributed to infant care practices like cosleeping and attentive mothering. While we no longer have to worry about our everyday existence, cosleeping still remains a crucial aspect for mother-infant bonding, overall physical and psychological infant health, and protection against threats like sudden infant death syndrome.

The study of cosleeping exists in a complex evolution of history, culture, health/illness, business, and neuroscience – among other things. We are currently experiencing a compression of time and space, in which times are changing so rapidly that our generation will die in a world very different from that in which we were born. Medicine and science are advancing faster than ever before, and meanwhile, our bodies remain unchanging, like time capsules advancing rapidly through time. As much as we would like to believe, our bodies and the process of development remain stagnant – known often as ontogeny (the development of embryos) recapitulating phylogeny (the evolutionary history of an organism). If that were true, we could study an organism's development and read its history 'directly' ...as a step-by-step guide. This idea is an extreme one – and is simply does not apply with today's framework of analyzing cosleeping.

We need flexible and systematic approaches to understand cosleeping. Biological anthropology is such an approach that complements traditional medicine, sociology, psychology, and cultural approaches. We have to be mindful that our bodies have remained mostly the same, while the environment(s) have continued to change, and evolutionary adaptations change. Many of today's ills are caused by collision of these issues in that compression of time—fundamental differences exist between current environments and the environments of the hunter-gatherers. Many 'return to the basics' movements have become widely discussed topics, including the paleo diet, the sustainable local organic food movement, and the resurgence of past infant care practices like extended breastfeeding, cosleeping, and bedsharing. A single 'idea' is unlikely to have the capacity to solely 'change' everything.

In addition to having the 'best' framework for approaching the complexity of cosleeping, we need 'better' methods of analysis. Trends in research and science point to successful models, some of which have been mentioned here. Interdisciplinary teamwork shows that more brains are better than one and provide synthetic analyses. Not surprisingly, biological anthropology embodies many of these dimensions in its overall approach. In addition, new information collected 'in-the-field' by technology like sleep cameras might aid in discovery and provide better understanding of the natural context of cosleeping. The biggest common mistake in this investigation, though, might be in underestimating the impact of factors on cosleeping and their interplay, or knowing the history and evolution of the cosleeping practice.

In societies that departed from the old norm of cosleeping, SIDS rates are higher than in societies who didn't. In addition, the issue can be looked at systematically. Historically in Western cultures, religion (primarily Catholicism) clearly had a huge role in personal lives of its devotees. In recent years, it's arguable that the government has had a strong influence in the

private lives of the citizenry. Every modern state has some direct level of involvement in the lives of its people, which are primarily dictated by healthcare bureaucracy. Western countries are certainly no exception. In recent years in the United States, women's health rights have been an intimate issue, and cosleeping follows in a similar sort of reproductive vein. There is something to be said about government interference having a marked effect on peoples' decision-making processes, ones that clearly carry over to the realm of early parenthood. For this reason, what the government publicly advises has the potential to influence individuals subconsciously and to a greater degree than might otherwise be acknowledged. By departing from cosleeping generations ago, most Westerners place their health and the health of their infants in the hands of the system. Whether this is a net gain or net loss of infants to SIDS, it might not be known, but trust in the system seems to be growing for some and diminishing for others.

Today, human adaptations are the most diverse of any species that has ever lived and some questions may elude our study or not be completely answerable. Humans are the sole participants in culture, which has been the steward for the accumulation of useful adaptations, as well as speech, which transmits culture, religion, and wisdom. There remains a great debate about whether we can truly act apart from our culture or whether we are ultimately contained by it. Until recent times, culture was arguably more of an acting force in people's personal lives and Western culture was a strong force on the lives of Americans, but there is reason to believe that this is changing. With such a prominent debate about cosleeping, it is clear that times are indeed changing as people question the cultural values that have been passed on. The younger generations are pushing the boundaries and the limits of the human experience. As religion in our country seems to be becoming more of a synthesis than a firm grasp, Americans are tailoring

their lifestyles in pace with changing times. Many individuals who became parents long ago say that they weren't even aware of cosleeping, and might have done it all differently now.

The options and knowledge that we have access to know, as well as science and evidence based research that supports them widens our horizons more than ever before. While many continue to practice what they were taught, many do not. The diversity found in Western culture is greater than every before, and the general movement back to our human roots seems to be continental in breadth. No longer do we take PSAs word for word; instead we spark great debates both in the realms of the internet (another new and endless domain), as well as between wide varieties of specialists. Perhaps PSAs such as the one in this paper would have been successful in its fear tactics had it been released fifty years ago. I would like to believe that there is a greater consciousness that our generation is taking part of, one that lives more by facts and less by fear.

The American public and perhaps wider Western culture seems to be gaining more of a culturally sensitive and evolutionarily conscious perspective. It is arguable that as the merits of cosleeping are now better-realized and shared, leading to a marked rising prevalence of cosleeping. As the fears that surround cosleeping are slowly dismissed and disproven, parents will begin to explore their inherent night-time parenting skills and be more open to return to their grassroots sleeping practices.

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