

Exploring the Future of Infant Feeding: Scenarios About the Future of Parenting, Infant Nutrition and Consumer Habits in The United States of America

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Abstract

Four scenarios of infant feeding offer strategic insights about American culture and social patterns by generating implications for the future of the family, nutrition, consumers and gender roles. The study involves careful examination of two critical uncertainties about the future of infant feeding: the outcome of cultural tensions among American mothers, known as the “Mommy Wars” and the fluctuating role of the American household as either “producer” or “consumer.” The scenarios portray a range of alternative futures to address possible socio-cultural change in store and raise awareness of the important role of breastfeeding to infant survival and human development.

Keywords: scenarios, families, infant nutrition, food, health, children, women

Introduction to the future of breastfeeding: Four possible futures (2025)

The skill for assessing technological and cultural change with important future implications should be exercised on topics of such significance as the survival of our young. The current state of breastfeeding suggests a reversal of a significant, generations-old pattern that established the norm for human infants to be nourished from birth on the milk of their own kind. The universal custom of breastfeeding is a worthy topic that is extremely relevant to the future of women, and also to future human development and survival.

According to WHO (World Health Organization), only 38% of infants worldwide aged 0 to 6 months old are exclusively breastfed, although exclusive breastfeeding for the first six months of life is universally recommended across major health organizations and NGOs (WHO, 2014). Breast milk is recognized as a life-saving substance; child deaths could be reduced by close to 1 million if ideal breastfeeding patterns could be established in the world (WHO, 2014).

In the United States, breastfeeding rates continue to rise but fail to last the recommended six month duration. The Centers for Disease Control (CDC) Breastfeeding Report Card 2014 reports that among “infants born in 2011, 49% were breastfeeding at 6 months and 27% at 12 months” (CDC, 2014). Just less than half the babies born in this year were receiving adequate nutrition at six months.

As WHO states on its webpage, “while breastfeeding is a natural act, it is also a learned behaviour.” (WHO, 2011). The history presented by Gabrielle Palmer in the book *The Politics of Breastfeeding* shows that social and economic contexts influence how babies are fed, tracing infant feeding behavior from prehistoric to industrial times (Palmer, 2009). Beginning with examples from hunter-gatherer societies such as the Kung San, Australian Aborigines, and the Hazda peoples, and moving through agricultural and industrial eras, the history illustrates that a society’s mode of production can either harmonize or conflict with the ability of women to nurse their babies. For nomadic hunter-gatherers like the African Hazda, “Suckling a baby is easy when you can do it while you work or can pause whenever it suits you because you are the one with control over your own work, welfare and survival,” (Palmer, 2009, p.159). The hunter-gatherer subsistence system allowed for a level of autonomy among women which supported the learned behavior of breastfeeding; the ability to nurse one’s young reinforced extended nursing (for at least 2 years) and natural child spacing as a result of delayed ovulation from lactation (Palmer, 2009, 159). This way of being for mothers and babies was the norm for most of the human past.

The agricultural revolution disrupted this pattern, resulting in a new world where “the availability of animal milk and supplies of starchy staple foods may have led to their use as substitutes for breastfeeding, particularly during the periods of intensive work [for women],” although breastfeeding persevered, since it was deeply woven into the patterns of domestic labor characteristic of settled (horticultural or agricultural) societies (Palmer, 2009, p.162). The true interruption to female control over their own labor emerged in the Industrial Revolution, which resulted in the “separation of ‘work’ and ‘motherhood’...and the family unit came to be seen as a group of consumers, rather than producers,” (Palmer, 2009, p.200). Infant feeding then became a commercial activity, at the same time that the household, the historic center of work and productivity, was replaced by the individual worker as the significant unit of economic production (Palmer, 2009, p.200). Furthermore, a “worker” came to be defined as usually male, although employment of mothers in factories was a significant disruption to the ability to nurse infants.

Furthermore, the early 20th century cultivated a specific ideal of motherhood that colluded with Industrial growth to redefine the role of women in society. In the sense that technological progress came to be seen as the solution to most of society’s ills, “‘scientific’ motherhood upgraded mothers’ domestic tasks and endowed them with an aura of professionalism,” according to Sherri Thurer in *The Myths of Motherhood* (Thurer, 1994, p.226). Part of this professionalization was the feeding of infant formula, viewed as superior to old-fashioned ‘natural’ feeding, subverting the biological norm of breastfeeding for the much more ‘accurate’ science of nutrition, particularly now that “instinct alone was no longer sufficient for raising a happy and healthy child,” (Thurer, 1994, pp.225-226). The 20th century “Scientific Mom” was not expected to challenge medical authority thus, as consumers, helped create the lucrative infant formula market that still thrives today (Thurer, 1994, p.236).

The rationale of exploring infant feeding as a future-oriented study is its centrality to human survival, but also because it represents an indicator of social change and transition between technological revolutions: how babies are fed evolves as human subsistence patterns change. Futurists should take an interest in noticing the direction of change now that human civilization leaves the Industrial age behind and fully transitions to Information-based economies. Infant feeding habits (i.e., trends), social norms and values/ideals regarding infant feeding seem to be useful indicators of change on a large-scale. As Palmer points out in *The Politics of Breastfeeding*, “most humans who have walked this earth never drank a drop of non-human milk,” (Palmer, 2009, p.176). The scenarios below show how infant formula feeding was imposed on society without adequate exploration of the cultural, economic, biological and environmental implications—the same may be said for many key technological breakthroughs of the Industrial era. Furthermore, artificial infant feeding is implicit in lifestyles of overconsumption that characterize the developed economies of the 20th century, particularly in the U.S.A. and that threaten critical thresholds of ecological and economic stability for the entire planet.

As such, infant feeding as a topic aligns with certain pursuits of the Futures Studies field. Firstly, it is related specifically to the survival of our species. Futurists are interested in how human beings will exist into the long-term future and in future generations not yet born. Clearly, nourishment for infants is critical to addressing the survival of humanity. In the context of the “global problematique,” a key concept in future-oriented thinking to address challenges of population, consumption, resources and economic constraints, infant feeding should be seen as critical to solutions for bettering and preserving humans on our planet. Second, because infant feeding options are driven by a range of social, economic, political and environmental forces, it lends itself to the methods of long-term future forecasting. An assessment of driving forces from all directions are important to understanding the direction of change in the area of infant feeding, and how those changes are connected to the future of work, communities, health, social services and families—and many more. Finally, the Future Studies field has a noted underrepresentation of studies that focus exclusively on domestic and female-oriented subjects. A future-oriented discussion of infant feeding is a valuable opportunity to expand the conversation about women and gender roles in the future, and inject futures discourse with non-masculine topics and experiences. The proceeding alternative future forecasts will offer a view of 2025 that emphasizes the subject of breastfeeding in the U.S., with specific implications in terms of consumer habits, gender roles, household organization and child rearing.

Programs and Campaigns for Breastfeeding: The Numbers

Vast discourse concerning the future of breastfeeding exists, though the topic is absent from the Futures Studies literature. Mainly, this topic is the domain of health and nutrition policy organizations, which have for some time set forth recommendations and goals for promoting breastfeeding. Breastfeeding rates are routinely included among important indicators of a nation’s health and development and are considered important global health indicators though challenges to capture accurate data and conduct sufficient outreach is a problem , particularly in developing countries including China (Cai, et al., 2012). Meanwhile,

OECD countries typically promote breastfeeding as a norm but there are many discrepancies in the overall uptake of nursing behavior among women even in developed countries; partly because of the complicated matter of measuring not just how many babies are nursed, but for how long. The following graph depicts the number of babies “ever breastfed,” which captures the highest possible count in the developed world, country by country, although the data was collected over a window of several years (OECD, 2014).

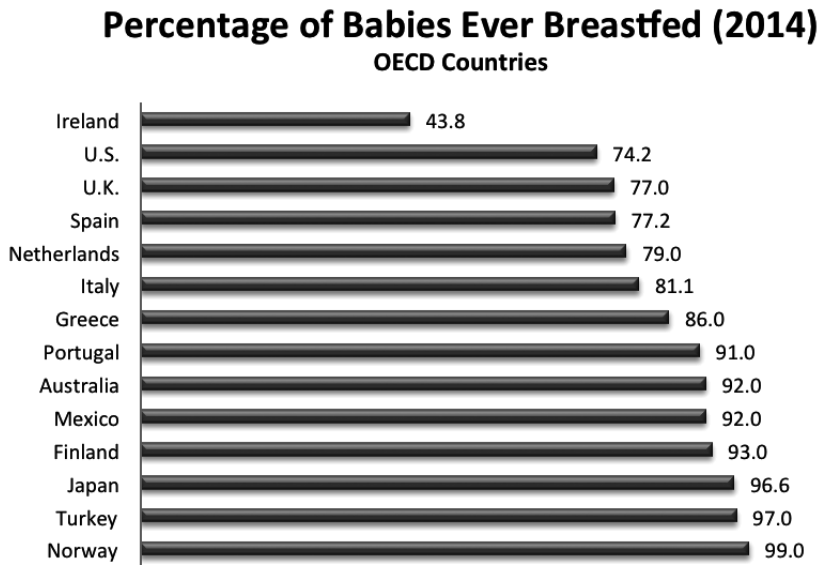


Figure 1. Percentage of Babies Ever Breastfeed (2014)

Note: From OECD (2014), OECD Family Database, OECD, Paris (www.oecd.org/social/family/database). C.O. (Child Outcomes) 1.5, Breastfeeding Rates.

Among public health experts, nutritionists, pediatricians and health care workers for mothers and babies, it is accepted that breastfeeding is optimal. The World Health Organization recommends breastfeeding a minimum of 6 months and up to 24 months, while the American Pediatric Association supports six months minimum of exclusive breastfeeding (WHO, 2012, APA, 2012). Increasing breastfeeding is among UNICEF’s Millennium Development Goals 2015 strategies to reduce child mortality (UNICEF, 2012). The UNICEF program for Baby Friendly Hospitals works to increase the number of women breastfeeding by maximizing support in maternity wards, while Save the Children in their 2012 *State of the World’s Mothers* report intensified their call to “Improve laws, policies and actions that support families and encourage breastfeeding” and upholds the view that exclusive breastfeeding for the first six months of life is the most live-saving measure possible in terms of improved survival children under age 5 (Save the Children, 2012).

There are other organizations like IBFAN, the International Baby Food Action Network and La Leche League International that puts non-governmental and social activism to work toward an agenda of increasing breastfeeding. These groups uphold a view supported by science: that breast milk is the optimal food for babies and the normal, rather than exceptional, route to feeding human infants (La Leche League, 2006). However, breastfeeding advocates see their efforts routinely thwarted by

a combination of factors that can be hard to isolate and remedy, most especially the aggressive marketing of infant formula (IBFAN, 2012). Infant well-being, encompassing survival and ideal physical development, are at the heart of these two organizations.

If breastfeeding is a part of the human future, what might it be? It should be noted that our classification as “mammals” makes this condition a truly essential and enduring aspect of life. According to standard definitions such as Merriam-Webster, a mammal is:

“any of a class (Mammalia) of warm-blooded higher vertebrates
... that nourish their young with milk secreted by mammary glands,
have the skin usually more or less covered with hair, and include
humans.”

Also universal is the existence of breast milk substitutes, which have a long history in cultures around the globe. The book *The Politics of Breastfeeding* does an excellent job of covering the history of breast milk substitutes used throughout the past and all over the world (Palmer, 2009). The author explains that the shift from breastfeeding as the norm occurred gradually during the industrial revolution, and that breast milk, along with many other household necessities that were once produced at home, were outsourced to the manufacturing sector. Psychologist Shari Thurer supports this view in her book *The Myths of Motherhood*, when she states: “...new artificial foods for infants were ‘scientifically’ constructed lent prestige to their use....” (1994, p.236). The modern notion that infant formula is adequate, if not preferable, persists.

Furthermore, academic research has amply examined other variables including workplace policies that conflict with breastfeeding, and paid postpartum leave limits (Phelps, 2011). Women also deal with media imagery and even maternal exhaustion at levels which can distort the early mother-infant relationship to emotionally vulnerable, inexperienced mothers (Jones, 2011). There are other issues such as the presumed convenience of formula, the sexual stigma of breasts that interferes with feeding in public, and the fact of demographics and economics that situates young mothers where extended family is absent. With each of these obstacles to breastfeeding in place, the problem of how to increase breastfeeding depends on more than one variable, making it an ideal topic for exploration through alternative future scenarios.

Applying Futures Studies to the Topic of How Babies Are Fed

Forecasting by means of future scenarios can provide the needed insight by portraying visions of the future that are more than just numbers and research. Instead, alternative futures can account for the broader, richer social landscape of reality that takes place outside of statistics (Schwartz, 1991). Alternative futures holistically integrate information about how changes occur. They offer alternatives to a singular future, and encourage perceiving problems—and of course, solutions—that are impossible to envision through strictly unilateral constructions of time. Social problems of all kinds can be addressed by the futurist perspective, although it is still underutilized, especially with regard to issues of women and families (Gunnarsson-Östling, 2011).

While quantitative projections of the future of breastfeeding would focus on extrapolating numbers and percentages, this article takes a futurist approach and looks at how current social, political, and economic trends might intersect in a decade or so. Along with monitoring trends, futurists hone in on major forces that have the potential to shape the coming decade. This exercise uses a simple, standard Global Business Network (GBN) four quadrant/2x2 matrix scenario method, which is considered a deductive scenario methodology (Ramirez and Wilkinson, 2013). This paper adopts the GBN steps described by Peter Schwartz in *The Art of the Long View* (1991). In terms of fit for the topic of breastfeeding, scenarios offer a perspective that can lead to direct action and decision-making:

“As an approach to engage constructively with unpredictable uncertainty, scenarios expose future assumptions that would otherwise remain implicit and clarify present situations to service different purposes—learning, informing decisions, making sense, aligning values or guiding action,” (Ramirez and Wilkinson, 2013, p.2).

The resulting scenarios are not predictions or endorsements, but an informed examination of technological and societal change, and its impacts on the family specifically with relation to breastfeeding. The goal for this piece is to arrive at four distinct forecasts of the future of breastfeeding in 2025, and offer strategic insights about American culture and social patterns. Furthermore, the scenarios are meant to encourage futurist inquiry into the possibility that the universal custom of breastfeeding is an endangered human behavior which, if it should continue its decline, would represent a notable technological and cultural shift.

Breastfeeding in America: Trends and Driving Forces Layered On Two Key Uncertainties

Looking to Peter Schwartz again for guidance, the information used to construct the following scenarios rest on insights resulting from an “Information Hunting and Gathering” expedition focused on families, women, gender roles, consumer behavior and infant nutrition (Schwartz, 1991, p.92). Electronic news sources, ranging from fringe to mainstream, were monitored for signals of change that might impact the infant feeding environment. The results of the research are input to the GBN process as the driving forces (Table 1), although the intersection(s) of two Critical Uncertainties are the backbone of the scenarios: *The “Mommy Wars” and Producer/Consumer Tensions* (Schwartz, 1991).

A. Driving forces

Several months of “Information Hunting and Gathering” contributed to the following list (Table 1) of trends and issues selected for this study.

Table 1. *Driving Forces: Infant Feeding 2025*

<ul style="list-style-type: none">• A tipping point has been reached: breastfeeding has become “the exception, not the norm”¹ (Clements, 2009). Work and career increasingly determine women’s infant-feeding choices² (Phelps, 2011). Urgency for policies to address women’s roles as earners and mothers³ (Zeitlin, 2013).• Evidence of a shift toward a Producer includes the rise of homemade clothing, food, baked goods, crafts⁴, the rise of 3D printing, and “maker” culture are expressions of this fascination⁵ (Matchar, 2012a; More Than Just Quilting, <i>The Economist</i>, 2012).• Activities being re-centered around the home, rather than social institutions: for example, homebirth⁶ and homeschooling⁷ are on the rise (Reinberg, 2013; Taylor, 2012). Homesteading and farming are growing as trends; so is keeping chickens, bees or small gardens, even in cities⁸ (Matchar, 2012b).• The idea that being a housewife/homemaker, stay-at-home mom or dad is a valid choice that competes with employment is an emerging concept⁹ (Doll, 2013). Nearly half of respondents in a Pew survey said they would prefer to stay home with kids than have a paying job¹⁰ (Ludden, 2013).• The so-called “Mommy Wars” where women are portrayed as combatants pushing one agenda or another in polar opposition: breastfeeding vs. formula feeding, to work or not to work, natural childbirth vs. elective cesarean¹¹ (Noehren, 2013). Men are increasingly embracing parenting roles and elevating in public discourse the struggles and joys of fatherhood¹² (Lee, 2013). A paradigm shift in science views breast milk as, “as a highly sensitive variable that plays a wide range of developmental roles” and demands a new look nutritionally and biologically¹³ (Day, 2013).
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Note: From author.

B. Critical uncertainties

Since formula has recently overtaken breast milk as the most commonly used infant food at 3, 6 and 12 months of age in the U.S., which is not dissimilar from the rest of the world, it represents a social change event that was monumental to human history: the dominance of mass-produced and consumed breast milk substitutes (CDC, 2014). As formula evolved as a viable, even preferable norm rather than something reserved for dire or unintended circumstances (such as the death of the mother, or medical conditions contradictory to nursing) it helped solidify the shift from a producer to a consumer society. So it makes sense that a Producer/Consumer identity can represent one driving force in the social conditions that drive infant feeding patterns. This will be one of two major uncertainties taken into consideration in the construction of the proceeding alternative futures.

We see evidence of a shift toward a Producer society in many of the social trends making headlines in America today: DIY, homemade clothing, food, baked goods, crafts, the rise of 3D printing, and “maker” culture are expressions of this fascination. There is also a shift toward public activities being re-centered around the home. Homebirth and homeschooling are on the rise. Homesteading and farming are growing as trends; so is keeping chickens, bees or small gardens, even in cities. The domestic experience is being reinvented and rejuvenated by a new generation of Americans who revere home life, reject mass consumption, and often bear distrust

for the social institutions that are associated with consumer culture. Not to mention a more particular and distinctive approach to food and nutrition favoring local and fresh. While there is no end in sight for mass-produced consumer goods, signs of a shift toward the Producer society can be observed, and this is the kind of cultural change that can be informative to the alternative future forecast. These are the Driving Forces, which are detailed in part A, Table 1, above.

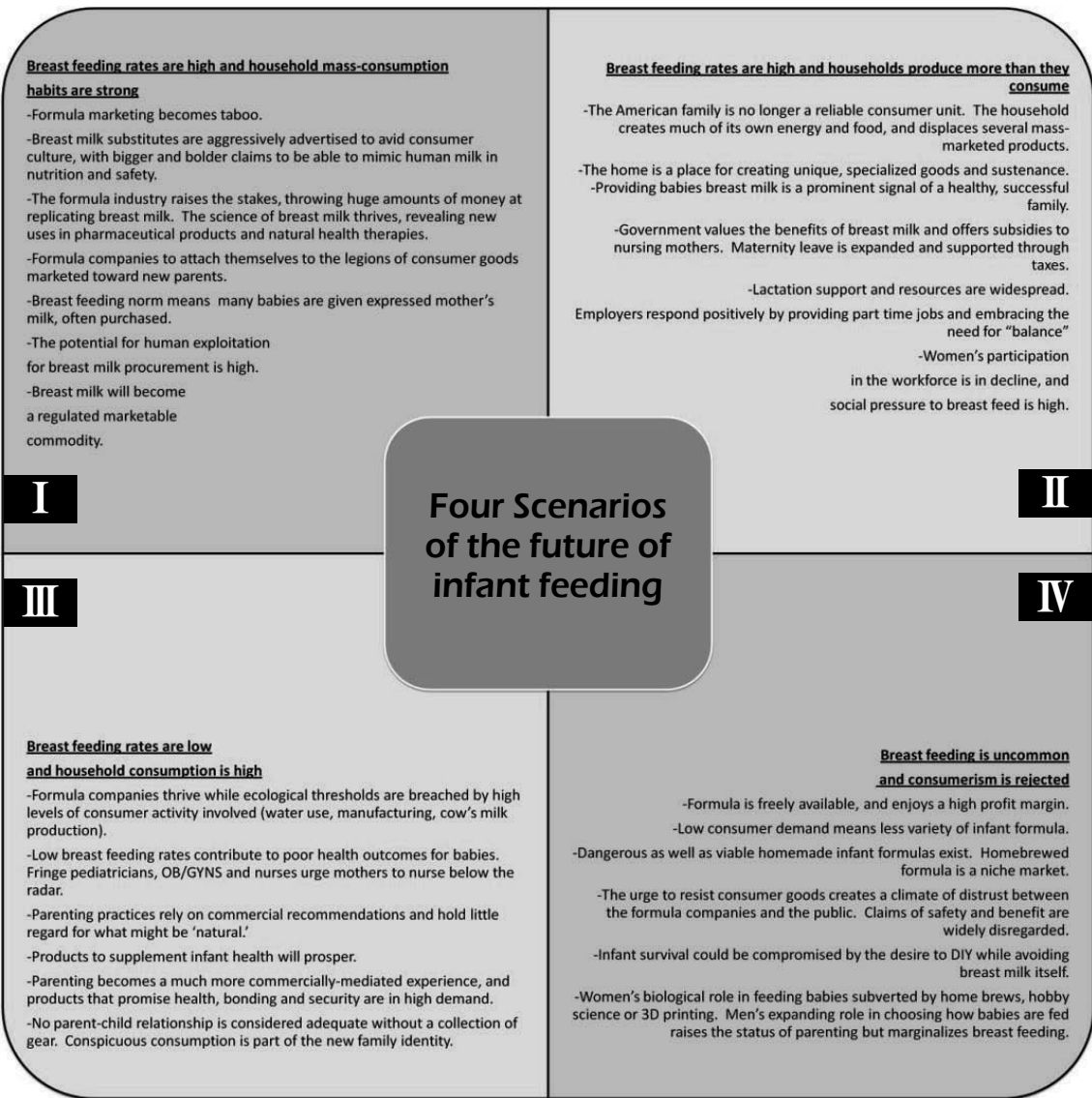
Another key uncertainty shaping the present discourse around families is the so-called “Mommy Wars” where women are portrayed as combatants pushing one agenda or another in polar opposition: breastfeeding vs. formula feeding, to work or not to work, natural childbirth vs. elective cesarean. While the Mommy Wars are hardly a positive or particularly even accurate representation of women, its simplicity and polarity does offer an ideal driving force in creating a range of possible futures for the matter of breastfeeding. The media’s framing of the differing philosophies of modern motherhood puts them at war and implies some winner will emerge, which creates the opportunity to forecast outcomes favoring one champion or another. The Mommy Wars offer a useful, oversimplified version of the present using an “us vs. them” debate. It may not be comprehensive, but it does offer a forked path to one future or another, which is a valuable idea for a future-oriented project. As Schwartz states, a good scenario “asks people to suspend their disbelief in its stories long enough to appreciate their impact.” (Schwartz, 1991, p.37).

There are other trends to keep in mind—ongoing financial instability and the gap between rich and poor stand out. Consumer habits will certainly interplay with class and equality in a number of ways that impact families. Taking a global perspective (although this article focuses on the U.S.), there is also the advancing middle class in China, India and Brazil whose growing, young populations are well-noted. Also, environmental challenges to the earth’s ability to sustain such growth and consumption make frequent headlines. While none of these trends directly refer to breastfeeding, they are inherently related: buying (or not buying) infant formula is a consumer act; growing populations have many babies to feed; and, of course, the environment includes water supply, which is a critical issue when infant feeding choices are made (formula mixed with unsanitary water is obviously worthless and dangerous, and bottle feeding requires clean water for washing). Linking the issue of breastfeeding to other, necessary variables, sometimes quite liberally, is inherent to comprehensively crafted alternative future forecasts. The choice to limit these scenarios to the United States is meant to simplify a complex topic and limit the research to one society because the issues around infant feeding are very specific to culture, society, economic status, level of development, and so forth. However, the implications can be universal.

The Scenarios of Infant Feeding, 2025: Four Alternative Futures and Implications

- I. Crème de la crème: *Consumer Society, Breastfeeding Norm.*
- II. Whole Milk: *Producer Society, Breastfeeding Norm.*
- III. Milk & Honey: *Consumer Society, Formula Feeding Norm.*
- IV. Lactose Intolerant: *Producer Society, Formula Feeding Norm.*

Table 2. *GBN Scenario Matrix*



Note: From author

A. Scenario I. crème de la crème

Breastfeeding rates are high and household mass-consumption habits are strong

In Scenario #1 "Crème de la crème" the US family is a target demographic that infant formula companies cannot reach, despite a high level of consumer enthusiasm. Indeed, a change has taken place and American mothers are breastfeeding their babies en masse, pushing the rate of exclusive breastfeeding at 6 months toward the 90% mark. Formula has become taboo in the sense that it contradicts deeply-held social ideals. Breast milk substitutes are aggressively advertised (everything is ruthlessly advertised in 2025) since profit margins shrink and make the consumer a highly coveted target. New formulas flood the market, making bigger and bolder

claims to match mother's milk. The formula industry races to raise the stakes; American families are reliable consumers, so these companies insist that eventually they will make inroads. It's not uncommon for formula companies to attach themselves to other consumer goods marketed toward new parents (baby clothes, infant gear and furniture) rather than hospitals, which stopped providing formula in 2020 thanks to pressure from the pro-breast milk public. Consumers vote with their dollars, though, and avoid those products. There are plenty of breastfeeding accoutrements, however, which wedge in between formula and bottles; accessories to make the breastfeeding experience more pleasant, safe, efficient and productive are ubiquitous. There is a growing perception that the breastfeeding "gear" is essential so consumers demand these items, even if they don't always necessarily help. There is a plethora of choices when it comes to pumps, storage systems, bottles, nursing pillows. Nursing clothing lines are included among every major fashion brand. Breastfeeding is the norm, but so is the mountain of stuff that new parents are expected to buy and use to improve the experience.

B. Scenario II. whole milk

Breastfeeding rates are high and households produce more than they consume

The second possible future scenario "Whole Milk" suggests that breastfeeding rates are quite high but the consumer society is weakening. Rather than purchasing most things that make the household function, many families are producing their own needs or using local sources. The household has become a highly self-sustaining ecosystem in and of itself; clothing, food, cleaning products, furniture, energy sources, and even simple electronics are largely DIY. The American family has shifted from consumer to producer mode. Breastfeeding makes perfect sense in this future: why would a family that makes its own electricity and soap buy infant food? The home is a place where unique and specialized goods are produced, and breast milk is the epitome of this worldview. The government, seeing maternal and infant health rates improve, also values the benefits of breastfeeding and provides financial subsidies to nursing moms, funding to breastfeeding support programs and devotes resources to research on human lactation. Milk banking services are widespread ensuring even the relatively few mothers who cannot provide breast milk for their babies will get its benefits.

C. Scenario III. milk & honey

Breastfeeding rates are low and consumption is high

Scenario #3 "Milk and Honey" offers a glimpse of a future where formula companies may thrive. Mothers are wooed by formula companies but low breastfeeding rates combined with mass consumption (and the pollution, waste and excess that comes with it) creates negative conditions for the most biologically fragile babies. Parenting becomes a much more commercially-mediated experience, and products that promise health, bonding and security are in high demand. Mothers and fathers still love their babies dearly, but no parent-child relationship is considered adequate without a collection of gear. Plenty of women breastfeed, but they are somewhat marginalized by new norms that views formula as the superior food. Women will be more likely to nurse for shorter times and with the supplementation of at least one type of baby formula. The common notion that "buying is being" contributes to a gradual decline in breastfeeding.

D. Scenario IV. lactose intolerant, or 2%ers

Breastfeeding is uncommon and consumption is weak

Finally, “The 2%ers” (low breastfeeding rates, weak consumption) represents a society where very few women will breastfeed. Consumer habits are simple; sustainability and careful use of natural resources are prevalent mindsets but this is not the driving force behind the low purchasing power of most American families. Rather, prolonged economic scarcity has made “homemade” a necessity, not a choice. Sadly, the abundant and free resource found in breast milk is overlooked since the influential top echelons of society prefer formula—the low demand keeps the price sky high, making it something of a luxury item. Unfortunately, weak consumer habits create a market where formula is scarce and many parents will be unable to afford infant milk. It is possible they will turn to dangerous and inadequate substitutes made at home or sold under dubious conditions. Home-brewed, along with cheap commercial formulas, will be responsible for infants becoming ill and even dying. Most American mothers will have little other choice: lactation consultants and breastfeeding supplies are costly and hard to access, and consumers are hard-pressed to spend their limited dollars anyway. Despite the shrunken ecological footprint of the typical American family in this future, without a worldview that supports nursing, breastfeeding will fade away, except perhaps in small, secluded circles of mothers.

Conclusion

There is probably little chance that breastfeeding will ever disappear completely but it is at risk of becoming nearly obsolete. At the most extreme, technology will displace it with scientific substitutes (artificial baby milk/formula) that mimic breast milk properties. Human milk may become reserved for medical use.

Most experts in the field of human lactation would certainly say we need more breastfeeding for the health and well-being of our children. It is the “official” health and child well-being discourse to support and encourage breast milk for babies. But is this changing? Some public breastfeeding campaigns and experts have toned down their missions and expectations for infant feeding. If we want to influence the future so that more babies are breastfed, we need to look at the possible outcomes of today’s issues, controversies, big ideas and plans emerging from these voices. At the same time, actual behavior as defined by the statistics and qualitative research reinforces the fact that the future of breastfeeding, like the present, is complex.

Furthermore, today’s assumptions and consequences regarding breastfeeding (policies, attitudes, and expectations) are about more than infant nutrition. Women are faced with primal biological realities in childbirth and infant care but there are forces beyond instinct at play when women feed their babies. Sensitivity to the variables of economics, technology, politics and society, so central to futurist forecasting, cannot overshadow the simple fact that being human has been inextricably linked with breastfeeding for our entire existence. If that were to change, it is the futurists’ job to see it coming and say so, before it is too late to do anything about it. If it is true that breastfeeding is at a “tipping point” it’s important to recognize the ecological, cultural and technological implications (Clements, 2009, p.24).

For lactation to become vestigial among our species (and there are signs that it

already is) denotes technological and cultural change of defining importance. What are we if we no longer nurse our babies, as women? As humans? As homo sapiens? Can we still be classified as mammals? Is this another branch of the anthropogenic impact on the Earth? What does this mean in terms of human evolution? When we as a biologically distinct group of mammals mainly feed our young in any other way, it is a step beyond mundane technological adaptation.

The secondary status of breastfeeding as a women's health issue is an obvious shortfall of the movement to advance breastfeeding in the U.S. Focusing on the health benefits for the child and social benefits for the mother has allowed the direction to be shaped simultaneously (and frequently acrimoniously) by medical science, liberal feminism, consumer science and capitalism. There is no doubt that health, infant nutrition, women's rights, goods and services, and economic subsistence are central to this topic—obviously, these are among the key issues that drove the 2025 forecasts. However, without a more overt conversation about what it means to take the path to a future where breastfeeding becomes extinct, societies are not addressing a fundamental change in human existence, and more important in the immediate future, ignoring a pressing question of sex, gender roles, and gender equality.

Finally, the matter of infant feeding is a crucial link in improving the rate of childhood survival and development in this world. Breastfeeding is an activity that literally determines life or death for some babies. Furthermore, it is closely related to fertility and child spacing, which will impact population issues.

In this sense breastfeeding is an excellent topic for futurists to take an active role to address. The futures literature would be enhanced by topics of a more female, feminine and feminist nature, which breastfeeding certainly represents. Furthermore, infant feeding is an issue that has become negotiated largely by public policy: there is a direct correlation between nations with generous maternity leave and high rates and duration of breastfeeding. These nations also tend to score well in measures of gender equality. As researchers and scholars with an interest in the health of the human condition, the common good and the improvement of society, futurists should not hesitate to address the complex challenge of the future of breastfeeding.

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Notes

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