

The Human Brain’s Need For A “Social Womb” During Infancy

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At birth, a baby's heart, lungs and kidneys are small but fully formed. These miniature versions of adult organs are ready to do the exact same work on a smaller scale. The human brain, however, not only grows but also goes through an early and intense period of structural development. Infants' early experiences with their caregivers and environments alter the structures and pathways of the brain. As they adapt to their surroundings, babies' brains lay down wiring preparing them for similar experiences and interactions in the future.

When born, an infant is helpless and dependent on others for his or her very survival. Think of the newborn human brain as a “preemie” needing special attention so it can continue developing successfully. Unlike the duck or the chicken, which quickly moves to independent functioning, human infants cannot survive on their own. Yet, the human brain turns this seeming weakness into strength. During this dependent period the human brain is very active, developing more rapidly than at any subsequent period of life. It is picking up clues as to how it should grow, learning what it needs to survive, how to relate to others, and how to fit in and function in various settings and situations. At birth the brain of the human is 25% of adult size, but in just 3 years it grows to 85% of adult size, and it transforms its wiring to look more like the adult brain.

Recent neuroscience is showing us that what babies need during this time of brain growth is a protected, nurturing environment, the social and emotional equivalent to the physical protection a fetus receives in the womb. This “**social womb**” allows infants to better process their experiences as their brain is constantly shaping itself for future functioning. The changing, growing human brain adapts accordingly to the quality of its experiences and environments.

What happens to the human brain during the first few years of life sets the child on a trajectory of thinking and feeling that lasts a lifetime. The more nurturing and enriching those experiences and environments are, the more the growing brain is wired to feel secure and safe, curious and engaged. The less nurturing and enriching, the more the brain is wired toward expecting neglect and fewer engaging experiences. Therefore, both at home and in child care, the conditions under which the infant's brain develops must be taken seriously. For the brain to grow strong in infancy the social womb must be strong.

Child development research points to the need for a social womb that provides the infant with the opportunity to: 1) develop secure bonds with the people who care for them, 2) engage in protected and encouraged social, intellectual, and communicative exploration, and 3) build a positive self-identity and sense of others. Let's look at each of these three components and see what the brain is experiencing.

Develop secure bonds with people who care for them

A strong social womb begins with a few significant, dependable people available to meet infants' physical and emotional needs at home and, if applicable, in child care. Science has shown that babies are born with brains that are programmed to expect that a few familiar people will provide for them. They are even programmed to search these people out. For the brain to grow in positive ways, the infant first needs the assurance of protection and emotional connection. Throughout the day, the social womb provides infants the company of at least one person with whom they feel safe and connected, a person they have learned will be there for them. If infants do not reliably receive this type of care or if they go through many changes of caregivers, they will experience periods of anxiousness and uncertainty. Failing to meet the

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programmed expectations for the availability of trusted caregivers floods the infant brain with stress hormones, wiring it to prepare for similar instability and uncertainty in the future.

Conversely, when caregivers meet an infant's preprogrammed expectations, the protection and emotional connection gives ample opportunity for the baby to relax, look around, reach out, and explore their new world. It is in this exploration that the next component of a strong social womb becomes important.

Engage in protected and encouraged physical, social, intellectual, and communicative exploration

A strong social womb not only provides tender loving connections but also social, intellectual, and communicative engagement. Even in their earliest, most dependent days, babies' brains are pushing for understanding, trying to make sense of the world around them and the people in it. The brain development that takes place during pregnancy means infants are wired to begin communicating, learning language, and searching for meaning from birth. Their success in these pursuits relies on caregivers providing them with timely information to process and objects and environments to explore.

Exploration kicks into high gear as babies start to crawl and then walk, and trusted caregivers act as a safe home base, where toddlers can check in for reassurance as they encounter new aspects of their surroundings. They are unknowingly depending on their social womb to provide them with high quality experiences and interaction that enriches their understanding of the world. Working hand in hand, the first two components of a strong social

womb give a child a feeling of security while learning through observation and interaction. This security allows them to widen their circles of exploration and get their first brief tastes of independence, intellectual excitement, and adventure, confident that their caretaker will be there when they return their attention. The brain growth stimulated through these enriching experiences links directly with the third component of the strong social womb.

Build a positive self-identity and sense of others

The newborn brain is programmed to be flexible and adaptable, using early experiences as a model for what treatment the child should expect later. Children build their initial sense of self out of the messages they receive from the people and environments they repeatedly encounter, beginning even inside the womb and continuing on their first day outside of the womb. Starting very early, both at home and in child care, babies' develop perceptions of their worth based on caregiver responses to their needs, interests and behaviors. As they process caregiver behavior and reactions toward them, they start to find answers to fundamental questions like "Will my needs be met?" "Is my voice considered?" "Are my choices valued?" "Is my curiosity respected?" "Am I seen as special?" Bit by bit the answers to these questions shape how babies see themselves and how they will act in response to the larger world.

As babies grow into toddlers, this brain shaping becomes more specialized. They continue to develop ideas about how they will be treated, but their observation and interaction begins to expand. Still paying attention to the behaviors of those with whom they are most closely bonded, they gather information on the values and expectations of their families and communities. These range from what language they will prioritize learning to how should they treat people who are similar to or different from those in their family. As

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they approach 20 months children start to view themselves as individuals both separate from and connected to others, learning to identify their place in groups (e.g., family or child care program) and beginning to expect certain types of behavior from others. They are also starting to regulate their own behavior based on what they have learned others expect. By age three, children have developed firm opinions about themselves and others and are beginning to construct moral, ethical and social codes – what is good behavior, bad behavior, acceptable treatment of others, and the rules of their family, culture, child care program and other groups. Young brains need the caring and wise caregiver models and mentors of a strong social womb both at home and in child care as they form their notions of self and others. Without them the young brain might be wired in a way that sends the child down a rocky path.

The Social Womb in the United States

Unfortunately when it comes to the care of infants, the policies and practices in the United States make it difficult for parents and other caregivers to provide the three components of a strong social womb. Outside social and economic forces leave too many babies in stark social wombs that force developing brains to function in a harsh, uncaring, and barren environment, putting future success in school and in life in jeopardy. We know what must be done to develop stronger social wombs for babies in the U.S. because we can already see what’s working in other countries. The successes of the services provided elsewhere mark the path we should take.

Babies need time and attention in order to develop secure bonds with the people who care for them, but did you know that the U.S. is the only industrialized nation without national paid leave or wage replacement program

for mothers or fathers to stay home with a newborn? This absence of paid leave policy means that the attachment process between infant and parent is routinely interrupted when mothers or fathers return to work just weeks after birth. Without being allowed to develop a sense of security in this primary relationship (component 1), babies face greater challenges in exploring their world and understanding their place within it. Therefore, the first step toward strengthening the social womb is to provide nine months of paid leave, sharable between parents, so they can stay home with their babies during the early months after birth or adoption.

Recent science of brain development shows that experiences provided by parents and other early childhood caregivers have a greater influence over a child's positive self identity, social development, and learning potential (component 3) than any later interactions with classroom teachers or university professors. Most European countries now work to maximize the quality of these early experiences by providing affordable or free parenting assistance during infancy. Regular, individualized contact with child development and health professionals, through home visitation and well-baby care, means that parents receive much needed support in a wide range of issues, including breastfeeding consultations, improving their parenting practices, better understanding their child's development and temperament, and early identification of and intervention in developmental delays. Visitations can ensure that any problems that arise are identified quickly and, when necessary, parents are connected with additional supports.

With more knowledgeable and responsive parent and primary caregivers, infants have a smoother path toward bonding and attachment and are more likely to receive positive messages needed in order to build a strong sense of

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self and of others. Therefore, we call for the provision of affordable, in-home well-baby care, including information on parenting and healthy development, counseling on early emotional and social development and assistance in transitioning babies into child care. This care should start 5 to 7 days after hospital discharge and continue monthly for the first six months, reducing to every three months thereafter until the child is two years old.

As parents return to work, they discover another point of weakness for the social womb in the U.S.: the low availability of affordable, high-quality infant and toddler care. The National Institute of Child Health and Human Development has found that fewer than 10% of childcare placements are rated as high quality, that is providing strong caretaker-child connection and safe and supported opportunities for exploration (components 1 and 2). We know that those caring for infants play a major role in the development of their brains, yet much of the U.S. considers childcare providers to be little more than babysitters. Low levels of training, certification, and credentialing limit the quality of care provided and, with many caregivers paid less than locker room attendants and dog walkers, childcare facilities face high employee turnover that disrupts the continuity of infants' relationships. Just when an infant starts to feel comfortable with a caregiver, the possibility is high that the caregiver moves on to another job. Those few high-quality options available are often costly, straining families' financial means, especially in comparison to the costs elsewhere. While the average U.S. family is responsible for approximately 80% child care costs, European countries offer a variety of subsidies that reduce the family burden to approximately 30%. If we are going to support the early development of young brains in the U.S., we must make affordable, high quality infant/toddler care accessible to all.

This wide reaching move toward universal accessibility of childcare will require many changes to social and economic policies. To ensure that all care is of high quality, infant and toddler care providers should be subject to training, certification, and credentialing, and they should receive compensation and health benefits on par with those of K-12 school teachers. Regulations for the quality of care should be developed and enforced, ensuring that certified professionals deliver intimate, engaging care in an environment with a low child-to-caregiver ratio. Finally, in order to guarantee that this level of care is available to all families, there will need to be federal, state, and workplace subsidies to families or to child care providers.

Summary of Policy Recommendations to Support the Social Womb

Paid Leave	Well-Baby Care	High-Quality Childcare
<ul style="list-style-type: none">• Provide parents with a minimum of 9 months of paid leave after birth or adoption of child• Make leave shareable between parents to allow for flexibility• Goal is to improve child-parent bonding and attachment.	<ul style="list-style-type: none">• Provide regular, affordable, in-home visitation by child health and development professionals• Begin care 5-7 days after hospital discharge and continue until 2 years old.• Connect parents with emergency supports when needed• Goal is to provide support and guidance to new parents, including early identification of and intervention in physical, emotional, and developmental problems.	<ul style="list-style-type: none">• Develop and enforce state infant/toddler child care regulations that ensure safe, engaging and intimate settings• Pursue state and federal regulations to ensure infant/toddler care providers are trained and credentialed and receive compensation and health benefits on par with K-12 school teachers.• Create federal, state, and workplace subsidies for families or child care providers to improve access to high-quality care.• Goal is to increase the continuity and quality of early childhood relationships and experiences in out-of-home care environments.

These recommendations may seem difficult to achieve, but rejecting them in favor of the current stark environment in which we expect U.S. infants to develop will lead to poorer functioning in school and in life as they grow toward adulthood. Let us instead take heed of what has been recently learned about the developing brains of infants and provide those brains with a nurturing and enriched social womb where they can prepare themselves for a successful and productive future.

Please Note: For more information on the topic of a “Social Womb” go to forourbabies.org or to the book “For Our Babies: Ending the Invisible Neglect of America’s Infants”, (2013) New York: Teachers College Press.