

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

by J. Ronald Lally



For Our Babies Campaign
Forourbabies.org

Unlike the heart, the kidneys, and the lungs, which, at birth, are fully developed smaller versions of their adult counterparts, the human brain not only grows larger once a child is born, but it continues to develop structurally. During infancy humans go through an intense period of brain building. They wire their brains to adapt to their surroundings and those in it, preparing their brains for similar experiences and interactions with people and environments in the future. Based on their early experiences human infants set down brain structures and construct neuronal pathways to shape their future thinking and feeling. While doing this, because the human infant is relatively helpless and dependent on others for quite some time after birth, the young brain needs a protected and nurturing environment in which to grow similar to the one a fetus receives in the womb. What the baby's brain needs is a "social womb" in which it can safely process the experiences that shape it for future functioning. Recent neuroscience has shown that infants need this "womb like" protection wherever they are receiving early care because brain shaping is constantly happening. Therefore, both at home and in child care, the conditions under which the infant's brain develops must be taken seriously. What is happening 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.

This need to create a "social womb" in which early brain development can be supported after a child is born does not mean that what happens to the brain while in the womb is not important. Much of the essential construction of the human brain happens while inside the womb and a good portion of basic brain wiring has already been completed by time a child is born. Yet, once born, a baby's brain continues to need a "womb like" environment to protect it and provide it with experiences as it continues to form. 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, after being hatched, move to independent functioning quickly, human infants are unable to fend for themselves and are very dependent on others for quite some time after being born. They 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, picking up clues as to how it should grow. It is developing more rapidly than at any subsequent period of life. At birth the brain of the human is 25% of adult size, but in just the 3 years of infancy it grows to 85% of adult size, and it transforms its wiring to look more like the adult brain than a baby’s brain at birth. During the first three years the baby is wiring its brain to learn ways that not only help it survive, but ways to fit in and function in settings and situations, and with people similar to those in which it finds itself.

Our prematurely developed brains start adapting to fit the environment even before a child is born. During the third trimester of pregnancy we see learning happening that will help the child adapt to the family into which it is born and this adaptation accelerates greatly once a child is born. Babies glean, from day-to-day experiences, ways to construct their brains to help them survive and prosper in similar conditions and treatment to those in which they currently find themselves. The active, adaptable brain of the human, turns infancy, a period of dependence, into a period of learning. The changing, growing brain uses infancy as an opportunity to wire itself to handle the rest of life. Patterns of thinking and feeling are set down which the child uses to form the base for future brain growth and wiring. The changing, growing human brain adapts accordingly to the quality of its experiences and environments. For the brain to grow strong in infancy the “social womb” must be strong.

3

J. Ronald Lally, Dec 2013



Child development research points to an infant’s 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. Component 1) develop secure bonds with people who care for them. A strong “social womb” starts with the provision, both at home and in child care, of a few significant people who can be depended upon to be available to meet infant’s physical and emotional needs. This is crucial – a few trusted people the infant can consistently depend on in his or her helpless state. For the brain to grow in positive ways, the infant first needs to feel safe. The “social womb” needs to provide infants with, no matter where they are during a day, at least one person they feel protected by, a person with whom they feel a connection, a person that they have learned will be there for them. First and foremost, the young baby needs the assurance of protection and emotional connection. 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. If infants do not receive this type of care, or have to go through many transitions from one new caregiver to another they will experience periods of anxiousness and uncertainty. When their programmed expectations for the availability of trusted caregivers are violated these feelings flood their brains with stress hormones and wire their brains to prepare for similar uncertainty in the future.

Conversely, if infants get their preprogrammed expectations met and receive protection and emotional connection they can relax, look around, reach out, and explore the new world in which they find themselves. They are ready to relate to the next component of a strong “social womb”, component 2) engage in protected and encouraged physical, social, intellectual, and communicative exploration. While babies are in this state of dependence on others, before going off on their own, their brains are actively trying to make sense of the world and the people in it. Young children push for understanding. Wired to, communicate, learn language and search for meaning, they rely on observation of and interaction with those they spend time with to provide them with information to process, and objects and environments to explore. A strong “social womb” not only provides tender loving connections but also social, intellectual and communicative engagement. As the infant starts to crawl and then walk exploration really “kicks in”. Toddlers rely on their trusted caregivers as a safe “home base” from which they can go off and explore and also unknowingly depend on them for the quality and richness of the experiences and environments they encounter. The first two components of a strong “social womb” work-hand-in-hand providing the infant with connected relationships in which a child can feel secure while learning, through observation and interaction, and from which a child can go out and explore safe and interesting environments worth exploring. Similarly, when the first two components of a strong “social womb” are in place the intellectual excitement the child experiences in the environment briefly pulls the babies focus away from their dependence on the trusted adult giving them a taste of independent functioning. They can have brief experiences with independence because they have gained a confidence that their special person will be available if needed. In a strong “social womb” children are assured that they are connected with adults who, while the child is exploring independently, will help if needed or

be there for support when solo exploration or peer interaction becomes too frightening. This feeling of security coupled with rich interactions, experiences and environments stimulates brain growth and links directly with the next component of a strong “social womb”, component 3) the opportunity to build a positive self-identity and sense of others. .

The opportunity to build a positive self-identity and sense of others is provided when those caring for an infant understand that a child’s first sense of self is directly connected to the messages children receive from the people and the environments they repeatedly encounter. From day one of a child’s life outside the womb, children are building a way to view themselves and others based on their day-to-day experiences. Starting very early at home, and continuing in child care, babies use messages from caregivers related to their needs, interests and behaviors to develop perceptions of their worth. Their brains process caregiver behavior toward them and reactions to them, to start to shape answers to 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 babies come to see themselves through the mirror of their relationships with others and start to shape how they themselves will act and be seen in the world. They do this by observing and interacting with their caregivers and the environment in which they are receiving care. The young brain is programmed to shape a definition of self this way. Flexible and adaptable the baby brain uses these early experiences to ready the child for similar treatment and acceptance in the future. As babies move into toddlerhood, this brain shaping becomes even more specialized. Through observation and interaction they pick up messages about things as specific as the value of their home language, and as general as the treatment of others, and get answers to unasked questions such as “How should I treat people the same color or a different color than me?” All

along the way babies are wiring their brains to expect treatment from, and act toward others, based on their early experiences. They blend both the early treatment of self and their observations of the actions of others to develop a sense of self, paying particular attention to the messages and behaviors of those with whom they are bonded or with whom they spend the most time. As they move up in age to around 20 months they start to view themselves as individuals both separate from and connected to others. They are learning to identify themselves as part of groups, such as families or their child care program, and begin to expect certain types of behavior from the people with whom they interact. They are also starting to regulate their own behavior based on what they have learned are the expectations of others. By the time they are three, children have developed not only opinions about themselves and others but they have constructed the beginnings of moral, ethical and social codes what is good behavior, bad behavior, acceptable treatment of others. They have constructed a beginning interpretation of the rules of their family, culture, child care program and other groups of which they are a part. They have developed expectations of how they will be treated and how they should treat others. Here, again, the need for a strong “social womb” is obvious. Without appropriate models and mentors the young brain might be wired to set the child down a rocky path. The young brains of infants need caring and wise caregivers as models and mentors both at home and in child care as they form their notions of self and others.

Infants Need a “Social Womb” that Provides Opportunity to:

1. develop secure bonds with the people who care for them.
2. engage in protected and encouraged social, intellectual, and communicative exploration.
3. build a positive self-identity and sense of others.

Unfortunately, for infants growing up in the US, the opportunities for their young brains to experience these three components of a strong “social womb” often are not available. Social and economic forces have created, for far too many babies, a stark “social womb” where their brains function in a harsh, uncaring, and barren environment. The social policies and practices currently in place in the US, regarding the care of infants, do little to build a strong start for infants and their developing brains, putting future success in school and in life in jeopardy.

Interestingly, what is needed to develop stronger “social wombs” for babies in the US is clear. In fact, many other countries have social policies in place that point the way. As shown by services provided in other countries an obvious first step is to provide paid leave to parents to stay home and bond with their babies during the early months after a birth or adoption. Did you know that the US is the only industrialized nation not to have a national paid leave or wage replacement program for mothers or fathers to stay home and care for a newborn baby? Because babies need to develop secure bonds with the people who care for them, we should ensure paid parental leave, as do other countries. What is recommended is the provision of paid parental leave for the first 9 months after a baby’s birth, sharable between parents as is available in many

other countries. What routinely happens in the US because of the absence of a paid leave policy, is an interruption of the attachment process between infant and parent. Mothers, because of economic and other reasons, are often required to return to work just weeks after delivery. The rupture of the building of this primary relationship is often coupled with another bonding issue for the infant, the difficulty of finding infant care of sufficient quality to provide what the baby is expecting to find – an adult who they feel connected with who will protect and nurture them, read their signals clearly and respond appropriately. In our country, the creation of a strong “social womb” is seriously jeopardized, not only by ruptures in bonding and attachment, but also by a lack of available high quality infant toddler care. In assessing the quality of infant-toddler care, the National Institute of Child Health and Human Development found that fewer than 10% of placements were rated as providing high quality. Parents are often faced with a “double whammy” because when high quality sites are found, they are often too costly to afford. While US families pay 80% of their child care costs directly, that number is closer to 30% in Europe, with the remainder of the costs subsidized through various sources. So not only is the bonding of a child to primary caregivers at home and in care put in jeopardy by the lack of high quality care, but the second component of a strong “social womb” the opportunity to engage in protected and encouraged social, intellectual, and communicative exploration exists in less than 10% of our country’s infant care settings. To support the early development of young brains we must create social policies that make affordable, high quality infant/toddler care accessible to all. The second recommendation is the creation federal, state, and workplace subsidies to families or to child care providers to ensure high quality infant care is available and affordable.

The third component of a strong “social womb”, the opportunity to build a positive self-identity and sense of others, is directly influenced by the experiences a child has at home and the quality of care provided in child care. What we have learned from the science of brain development is that those providing care for infants have a better possibility of influencing an individual’s sense of self, social development and learning potential than classroom teachers or university professors. That is why many countries have decided to provide new parents with affordable or free parenting assistance during infancy. Most European countries provide home visitation services or well baby care to help new parents improve parenting practices, better understand their developing child and address developmental delays. Help with breast-feeding, information about how to deal with children of different temperaments and the early identification of developmental delays are just a few of the many benefits parents receive from individualized contact with child development and health professionals. What the infant receives from these visits is critical to development, a smoother path toward bonding and attachment and more knowledgeable and responsive messages from family members as he or she builds a sense of self and of others. Therefore, the third recommendation calls for affordable in-home well baby care being provided starting 5 to 7 days after hospital discharge and monthly for the first six months and every three months thereafter until the child is two years old. This guidance by trained professionals should include information on parenting and healthy development, counseling on early emotional and social development and assistance in transitioning babies into child care.

With regard to the quality of infant child care both staffing and regulations have an impact on the presence or absence of a strong “social womb”. As you have seen, those caring for infants play a major role in the development of their

brains. Yet, in our country, those who provide that infant care are viewed as little more than babysitters and engaged in a low-status profession. In the US, early child care workers are paid less than locker room attendants, and dog walkers. One outcome of low compensation is too high employee turnover. This often results in breaks in the continuity of infant relationships with their care providers. Just when an infant starts to feel comfortable with a caregiver, the possibility is high that the caregiver moves on to another job. Additionally low levels of training, certification, and credentialing limit the quality of care provided. The fourth recommendation contains two provisions. The first is that certification, credentialing and training should be required for all infant/toddler care providers. The second is that steps should be taken by state and federal governments to ensure that infant/toddler care providers receive compensation and health benefits on par with those of K-12 school teachers. The fifth recommendation completes the upgrading of infant/toddler care quality to adequate levels. It recommends state infant/toddler child care regulations be developed and enforced that ensure safe, engaging and intimate settings staffed by certified professionals. That means infant care delivered in small groups, with a low child to caregiver ratio, where caregiver and child stay together over time to ensure continuity of relationship and the infant/toddler teacher is a credentialed professional.

This list of recommendations may seem difficult to meet, but the rejection of them leads to poorly functioning students and citizens. The conditions under which American infants are currently expected to develop, in their homes and child care placements, are putting their development at risk. During a critical stage of life, infancy, when the human brain is going through a rapid period of construction, we, as a society, have provided our babies with a stark environment to overcome. 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.

Policy Recommendations to Support the “Social Womb”:

1. Provide paid leave to parents to stay home and bond with their babies during the early months after a birth or adoption.
2. Create federal, state, and workplace subsidies for families or child care providers to ensure high quality infant care is available and affordable.
3. Provide affordable in-home well baby care starting 5 to 7 days after hospital discharge and monthly for the first six months and every three months thereafter until the child is two years old.
4. Require a) certification, credentialing and training for all infant/toddler care providers and b) steps be taken by state and federal governments to ensure that infant/toddler care providers receive compensation and health benefits on par with those of K-12 school teachers.
5. Develop and enforce state infant/toddler child care regulations that ensure safe, engaging and intimate settings staffed by certified professionals.