Investing in Human Potential From the Beginning of Life: Key to Maximizing Human Capital

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ABSTRACT: Economic analysis of human capital—the abilities and skills a person brings to community and work force—suggests that investing in early childhood programs is much more cost-effective than dollars spent intervening later in life. Even with increasing knowledge of the importance of early intervention programs, there still appears to be a mental divide separating the prenatal and birth period and infancy. Programs that begin during infancy or later may not address the fundamental origins of the increasing issues we face regarding our children. The key to reverse this cascade of poor outcomes and to dramatically improve human capital and human potential is to bring innovative and comprehensive efforts to support families during the primary period of human development—pre-conception through baby's first postnatal year. This paper introduces 12 guiding principles to align the re-visioning and strategic planning for funding, policy-making, research, professional education and training, and parenting practices. First action steps to maximize human potential and human capital from a prenatal and perinatal psychology perspective are addressed.

KEY WORDS: prenatal and perinatal psychology, human potential, human capital, infancy, early development, economics of early childhood, maternal stress, toxicity, chronic disease, early trauma

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Introduction

We currently find ourselves in a national and global economic crisis, a crisis whose signs had been brewing for almost a decade before banks began failing and the stock market began its sudden downward freefall. A crisis such as this shakes our very foundations and provides an opportunity to ask important questions: How did we get here? Could this have been prevented? Is it possible to re-think our economic structures and policies to create stability and growth for communities and families worldwide?

A potentially similar, yet much more silent crisis is brewing all across America relating to our infants and children. Symptoms are appearing in child health report cards and numerous research studies. We see an alarming rise in prematurity, low-birth weights, surgical births, autism, ADHD, childhood aggression and depression, asthma, overweight and obese children, attachment disorders, learning disabilities, and use of psychiatric drugs to manage children's conditions, as well as a rise in the number children in foster care, adolescent homicide, child abuse and teen pregnancy.

If we do not heed these symptoms, the crisis in infant and childhood development will lead to a whole host of poor outcomes and social ills that continue to progress as these children grow into adulthood. Something different needs to be done at a systemic level to stem the tide of growing societal ills. As a culture, we are at a turning point. We must re-vision what is needed and what is possible. As individuals, organizations and communities, we need to take action to reverse this growing trend toward poor outcomes and limiting lifelong consequences for our children.

Interestingly, insights from the field of economics—human capital theory and monetary payoffs—have contributed to a shift in early childhood policies. The 2008 Rand Report, *What Does Economics Tell Us About Early Childhood* suggests:

An increasing chorus of Fortune 500 CEOS, Federal Reserve Bank analysts, Nobel Prize—winning economists, and other business and economic leaders have led the call to increase public "investments" in early childhood. This call is driven by research findings that increasingly emphasize the importance of laying a strong foundation in early childhood and that show that a range of early interventions can successfully put children on the path toward positive development, preventing poor

outcomes in adulthood. These findings—along with increasing recognition in the public-health and social-service sectors that providing program services in early childhood has benefits over treatment later in life—have contributed to the evolution of economists' support for early childhood investments. (Kilburn & Karoly, 2008, p. 2)

This paper echoes these theories and findings, but takes them one step further, calling for a new, far-reaching vision that would realign our priorities and direct our precious resources most effectively and efficiently. The key to re-visioning a healthy economy, healthy communities, families and children, rests upon decades of research and wisdom across many fields of inquiry and practice and begins at the conception of human life.

Current research demonstrates that the most effective and efficient place to invest our funds, services, and comprehensive efforts at every level, is to focus on supporting all human beings and their families during their *primary period* of human development: from preconception through first year of postnatal life. It is during this time that the core foundations of physical and mental health, emotional intelligence, and the ability to develop one's capacities and talents are established.

The primary period is the *most critical period* in human development. Brain structures, capacity for resiliency and productivity are all built upon this primary foundation. Thus, by supporting our babies and their families with education and services from conception forward, we most effectively prevent the costly cascading effects of less than optimal beginnings, both in terms of loss of human potential and human capital.

INFANCY AS CRITICAL DEVELOPMENTAL PERIOD

The 20th Century saw a shift in thinking in western culture about the importance of childhood. In focusing on preparing adults for productivity and therefore looking earlier to education, the question was asked, "What does it take for a child to succeed in school?" Links began to be made between success in school and school preparation. The Head Start program gave our nation's disadvantaged children a real head start; but it wasn't enough, so we began to look earlier. Early Head Start, and now pre-school programs serve to prepare children for lifelong learning.

However, what was considered the critical period for development of human capacities and learning has been rolling back earlier and earlier in the past two decades. Emerging research and clinical findings now demonstrate that kindergarten and pre-school are far too late. We must begin at the very beginning.

The 1990's brought extraordinary new insights into infant development and specifically infant brain development. Research findings regarding developmental neuroscience, attachment, and childhood trauma together transformed our view of infancy and childhood. We came to understand that very early experiences establish the core wiring and architecture of the brain as well as key foundations for future health, emotional stability and resiliency. Clear evidence demonstrated that early experience, early relationships, and the interplay between gene expression and environmental conditions were essential to establishing healthy foundations for life. We saw the critical need for early healthy relationships and supportive environments. It became widely accepted that the first three years of life set in motion life-long patterns and subsequently many intervention programs have been implemented to support infants and families during the ages zero to three. With this trend, professionals sought more training in infant mental health, attachment, and early

As researchers and other professionals called for more services and interventions to support families and their infants and children, economists began to analyze the cost effectiveness of providing those earlier services. The value of human capital—the abilities and skills a person brings to the community and workforce—was examined by looking at the effectiveness of early interventions in terms of cost-benefits over time.

James J. Heckman, Nobel Laureate in Economic Sciences, who has been a leader in this cost-effectiveness comparison, concluded that the best evidence supports the policy prescription to invest in the very young. In his research, he concluded that money spent earlier had much more benefit over time than the same amount of money spent later. He also took a more holistic view of the child's abilities and suggested that supporting emotional and social skills were fundamental to successful cognitive skill building.

Analyses of a wide array of early intervention programs have produced very positive results and demonstrate that "learning begets learning" and that early investments in learning are effective. When we invest in the young, we save money and build our human capital most effectively.

During the last decade, the critical period has been identified as zero to three or zero to five. Zero designated "birth," suggesting that birth is the beginning of the baby as an entity. Supporting families to get prenatal care and parent education have been the focus of some efforts, yet most focus still remains after birth and later infancy.

Despite the incorporation of new knowledge about infants during the last decade, with increasing professional education and community programs to support families' zero-to-three-year-olds and the clear findings that funding towards maximizing human capital is most effective during the early years, it is disturbing that we still find our babies and children in crisis. Do we need more education, support and services, more comprehensive and coordinated efforts during zero to three years? This is a question many are pondering. We believe that programs and services that only begin at birth or later may not address the fundamental origins of the increasing issues we face regarding our children.

We believe the key to turn around this cascade of poor outcomes and to dramatically improve human capital and human potential is to focus more on the primary period of human development. We suggest that the difference between thriving and surviving begins in the womb.

PRIMARY PERIOD OF HUMAN DEVELOPMENT

As we move into the 21st century, the newest developments in science and psychology suggest that the most critical formative period goes back even earlier than birth. Findings from an array of disciplines point to the period between pre-conception through baby's first postnatal year as the most "sensitive and critical period" in the establishment of life patterns in all domains: physical, mental, emotional, relational, and spiritual.

Prenatal and perinatal psychology has been studying our earliest development from the baby's point of view, from pre-conception through birth and bonding, for over 30 years. The field's research and clinical experience have established the fact that our earliest experiences form the foundation of our sense of self, our capacity to relate to others and our resiliency in life. This work has also effectively mapped out key nodal points of development that need to be met in order to promote healthy life patterns. Prenatal and perinatal psychology professionals are trained to work directly with babies and their parents during the prenatal and postnatal period to prevent and treat early trauma, thereby preventing a potential cascade of later problems. Even though these important findings and early clinical work has been established in prenatal and perinatal psychology, they have not always been effectively distilled in ways that bridge to

mainstream early development and psychological understandings and practice.

Santa Barbara Graduate Institute opened in 2000, offering the first graduate degree programs in prenatal and perinatal psychology with the intention of bridging the findings from prenatal and perinatal psychology with other leading-edge fields such as biodynamic embryology, infant mental health, attachment, early trauma, developmental neurosciences, consciousness studies and other sciences.

As educators, researchers, and practitioners focusing within both the prenatal and infancy domains of human development and psychology, it has become clear to the authors that a *mental divide* exists in our culture and professional practice that separates the prenatal world from that of infancy. Professionals are trained to work within one domain or the other: prenatal and birth or infancy forward. Agencies and services are generally funded for one or the other.

Although many fields of research were identifying the origins of later problems stemming from the prenatal, birth, and postpartum period, mainstream practice has still focused its attention primarily after birth. Even some of our most prominent researchers, educators and policy makers who recognize the value of early experience do not always include the prenatal and birth period as part of a continuum that has an effect on later development.

For example, one of the top leaders in early childhood science recently stated in the 2007 article, *The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do* published by the National Scientific Council and the Center on the Developing Child at Harvard University, "All aspects of adult human capital, from work force skills to cooperative and lawful behavior, build on capacities that are developed during childhood, beginning at birth." (p. 7)

We believe we need to eliminate the current mental divide and see human life as continuous from conception forward. From that vantage point, we can see even earlier origins of stress and trauma that may ripple forward from conception to the prenatal period, to birth, and then to infancy and early childhood. Regrettably as we look to the prenatal, birth and bonding periods, we see disturbing trends in our culture.

Let us consider a few of those concerns here: the influence of nutrition, environmental toxins, toxic stress and maternal anxiety during pregnancy; the loss of confidence in normal birth and the loss of bonding with interventions and separations; and the psychological ramifications of unrealized, unmet needs, stress, and trauma experienced by the baby in the womb, during birth and as a newborn.

- Evidence now suggests that the origins of many of our leading chronic diseases such as obesity, hypertension, coronary heart disease, stroke and diabetes may be set in motion in the womb. The impacts may effect not only the person during their lifetime, but their offspring as well. Both Peter Nathanielsz of Cornell University, New York and David Barker, Southampton University, UK, suggest that if growth were optimized prenatally, the burden of chronic diseases would be greatly reduced.
- Increasing evidence shows the vulnerability of babies in the womb to not only inadequate nutrition, but the dangers of environmental pollutants and toxins. A benchmark study by Environmental Work Group of randomly chosen cord blood samples found the babies' blood were polluted with hundreds of industrial chemicals, pollutants, and pesticides. What is most disturbing is that there has been very little study of the effect of these combined chemicals on the delicately growing fetus. Toxins such as pesticides have also been found to effect detrimental changes pre-conception in the parents' egg and sperm. Could these be related to the astounding increase in autism, learning and behavior disorders, cancers, and psychiatric disorders in children?
- The effects of toxic stress and maternal anxiety during the prenatal period is even more disturbing and has been associated with a growing list of negative outcomes across the lifespan. For example, toxic stress and maternal anxiety have been associated with higher risk of miscarriage, preterm labor, growth-retarded babies, changes in the brain architecture with permanent changes in the child's regulatory functions, lower eight-month mental and motor development scores, attention deficit disorder, child temperament, school marks at age six, emotional and regulatory problems in children of all ages, higher cortisol levels in pre-adolescent children, depressive symptoms in children ages 10-16, and even schizophrenia in offspring. Maternal depression and anxiety have also been associated with adverse birth and neonatal outcomes.
- The US cesarean section rate has risen from 4.5% in 1965 to nearly 33% in 2007. There is an alarming loss of confidence in normal birth and the value of bonding that may be interrupted with these procedures, leaving many with deep concerns regarding the trend toward more surgical births.
- Low birth weight and preterm births rates have risen, influenced in part by the rising cesarean birth rates. These lead to more

complications for the neonate, more neonates requiring care in neonatal intensive care units, and a rippling effect of poorer outcomes in school performance and health over the lifespan.

- Even though separating mother and baby has been shown to cause physiological distress in neonates and poorer outcomes, less synchrony between mother and baby, and less likelihood of successful breastfeeding, separating mothers and newborns is still common practice in many hospitals.
- From the clinical lens of prenatal and perinatal psychology, we perceive that unmet needs, stress, and trauma experienced by the baby during prenatal, birth and neonatal periods can be attributed to be the origins of nearly every mental health disorder and attachment issue in relationships. Clinicians working with infants from the prenatal and perinatal psychology perspective believe that the majority of infants who have traumatic experiences from the prenatal and perinatal period show traumatic imprints that largely go unrecognized as such. Most are left untreated until they become recognizable as more familiar maladies such as attachment and learning disorders and regulation issues in later infancy and childhood.

These are but a few of the disturbing findings and trends that call us to bring our attention more fully to the primary period of development, and to invest our resources there so that we might prevent the cascades of poor outcomes and the loss of human potential stemming from this foundational period of development.

COMMUNITY UNITED IN SUPPORT

For over three decades the authors have worked with birthing families. We have seen ourselves at the leading edge in that regard. Yet, a few years ago, we were humbled when we heard Subonfu Somé of the Dagara Tribe in Africa speak about the vision and practices of her community focused towards ensuring optimal conditions for each person being born. We were both deeply touched by the profound dignity and wisdom these people show in their practices.

As she described her village's rituals and practices, she talked about how the whole community holds the vision that each little one is vital to the community's future. Each person has a life purpose, unique talents and strength to contribute to the community; and, therefore all the community members dedicate themselves to providing whatever is needed from the beginning of life, starting well before the child's conception.

In the Dagara tribe, parents are expected to prepare to bring a

child into the world by cleansing their bodies and healing past emotional issues. They hold the baby as a conscious and aware being to be communicated with directly. Welcoming rituals take place when the pregnancy is announced and members attune to helping the baby feel safe, welcomed and supported throughout the pregnancy, birth and afterwards.

Subonfu said that if we walked into her village, we could see it as impoverished. Yet the richness and wisdom of the community's collective vision and practices made it clear that whatever it takes, their first priority is to support each community's human potential from the beginning of life. They understand that whatever happens in the womb, birth and bonding becomes that individual's world, their foundation. They understand that the primary period is the most important time for actualizing a person's fullest and clearest potential. Since we first listened to Sobonfu Somé and read her book, *Welcoming Spirit Home*, we have kept that as inspiration and guidance.

KEYS TO VISION, PRIORITIES, AND ACTION

Returning to our current global economic crisis, we recognize that part of the disaster was a significant lack of vision and leadership to effectively set policy and practices to align with and support a vision. We now see a critical need for new vision that can hold the complexity of the problems and solutions to move our failing economic system into a new healthy global economy. Similarly, given the growing crisis of poor outcomes in our children, how do we best support human potential and human capital? We offer one perspective here.

Valuing The Primary Period as Our Highest Priority

As the Dagara Tribe in Africa so beautifully portrays, we believe the most important key to success in the 21st century is first to value and give the highest priority to supporting human potential at the very beginning of life. Nothing is more critical to developing our children's potential and our society's human capital. The perspective of prenatal and perinatal psychology and health's offers a more holistic viewpoint and inspires reprioritizing our resources and family life.

We suggest three principles to guide us:

- Vision, intention and strategic planning
- Comprehensive and multiple avenues of action
- Commitment to doing whatever it takes

21st Century Vision, Intentions, and Strategic Planning

Although "prevention" and support during pregnancy, birth and baby's first postnatal year does exist, our understanding of the primary period calls for something entirely new to create the necessary tipping point in our thinking about the value of experiences from the beginning of life. We need to set new intentions and goals based on the most current research and understandings of the primary period's critical nature from a more holistic perspective.

When we set our intention, even if we don't know how to accomplish it, it sets in motion a creative energy for new decisions and actions. Just as President Kennedy's calling for the US to have a man on the moon in one decade set that reality in motion, bringing innovation, resources, and production together in original ways that benefited all of humankind.

We call upon funders to give the highest value and support, not only to early prevention or intervention programs, but also to fund the time and effort it takes to bring experts, leaders, professionals, community members, and parents together to create new vision and design new strategies to best support human potential at national, state, and local levels on an ongoing basis.

Comprehensive and Multiple Avenues of Action

Comprehensive avenues of action at multiple levels focused on the primary period will be needed to create the tipping point. Funding research, professional education and training, policy-making, public awareness, and community involvement will be vital.

Research. Many current findings point to the vital importance of the primary period, yet so much of the "early" research or longitudinal research has not included prenatal and perinatal factors. Part of this is a lack of recognition and information. This is a key component that prenatal and perinatal psychology brings to the table. For example, most attachment research examines attachment during infancy and early childhood as precursors to later attachment issues. Viewed through our prenatal and perinatal psychology lens, we see how attachment patterns are forming all throughout the pre-conception, prenatal and birth and bonding periods. These precede those found in infancy, yet many researchers have not known this and do not know how to study attachment during the earlier period. Thus, one recommendation is for more research to include prenatal and perinatal factors when investigating early factors with later outcomes.

Secondly, more research is needed to develop systemic assessments, screening criteria, and interventions during the primary period. Again prenatal and perinatal psychology has been on the frontier of understanding the baby's development from the baby's point of view and holds great promise for more effective integrative and holistic views of supporting human potential and families during this period. Yet still the field lacks the depth of systematic research necessary to become more mainstream information. For example, innovative prenatal and perinatal psychology oriented therapies with new and young babies have promising results. The approaches involve assessing baby and baby-parent interactions for traumatic imprinting and working directly with babies with parents present. We find that not only are the traumatic imprints resolved along with their resulting symptoms such as disregulation, breastfeeding issues, inconsolable crying, and transition difficulties, but the babies also appear to be more connected to their core in several important ways. They are able to regulate, form positive attachments, and are grounded in their bodies. We find their resilience in future situations is strengthened, and their human potential appears to be dramatically improved, resulting in greater emotional intelligence, learning, and creativity. Although these findings are extraordinarily positive, more systematic research and development of these therapeutic interventions are needed.

Prenatal and Perinatal Psychology and Health Education and Training. During the last decade we have seen the infant and infant brain research effectively introduced into professional education and practice. Infant mental health programs are multiplying and professionals and organizations now value and incorporate this set of important information and recommendations. We opened Santa Barbara Graduate Institute in order to produce professionals who specialize in this early period. We recognized the need for a dramatic infusion of professional education, training, and practice that focused on the primary period of development and family life. The education and training emphasizes the continuity of human life from conception forward and crosses that mental divide that compartmentalized our thinking into prenatal period and infancy.

The need for more professionals educated in this specialty is vital, for many today trained in infant mental health still believe that the baby is not capable of being worked with directly until the second year of life. This notion has limited their ability to provide assessment and treatment right after the baby is born, rather than later when the brain and patterns are already more established. Not only do we need

more therapists who specialize in the primary period, we need this information integrated into a vast array of education and training for professionals and paraprofessionals supporting families during the primary period.

More funding is needed to ensure advancements in terms of academic research, writing, and articulation within the specialty of prenatal and perinatal psychology. For example, new models of early development, new Needs theory, and new therapeutic approaches need to be available as textbooks, training and training materials.

Public and Parent Awareness Campaigns. One of the most significant hurdles we find is that most people do not have the information or mind-set that human potential is critically shaped during preconception through baby's first postnatal year. They don't have the information to re-prioritize their lives and to act in ways that support their children's development during this critical period. So often we hear too late from parents, "If only I had known this before I would have..." For example, we see the negative repercussion of separating mom and baby and the use of incubators in NICU care rather than skin-to-skin care, and we treat the resulting problems from this. Parents often wished they had known the effects of separation before consenting to this practice.

In the past, it has taken years for new research, information, and recommendations to become part of mainstream thought and practice. Yet, now with the Internet and other technologies, new strategies of disseminating information more effectively and efficiently need to be funded and utilized. We need funding and strategic planning to include effective distribution of this information to make informed choices. *Policymaking*. Again we need every part of our society to re-prioritize resources toward this early period, including the wide range of policymaking bodies, be it national, state, or local government, charitable and non-profit organizations, or businesses. Consider the amazing fundamental change that is possible if policymaking bodies at all levels of our society made supporting human potential during the primary period of development a number one priority.

Commitment

In order to create a tipping point, not only do we need new innovative vision, strategic planning, funding, and comprehensive approaches, we need the commitment. We must be willing to do everything it takes to support each new member of our society to have all that is required for a healthy, nourishing, life-enhancing primary period of development. One program that inspires us is the Harlem Children Zone's Project whose mission is to create significant positive opportunities for all children living in a 100-block area of Central Harlem. It is a resident driven, community-building initiative that serves over 8,600 children annually. The "do whatever it takes" attitude is held by an increasing number of agencies, groups and residents that have effectively come together to improve the lives of children. Our point here is the need for comprehensive commitment during the prenatal period by all sectors of the community.

WHERE TO START

Community members, peers, families, and faith-based communities are all vital to the success of creating the tipping point. Every person has a role to play.

We so often see communities mobilize when disasters destroy their properties and lives. Our current loss of human potential is a disaster! We need to support community, grassroots mobilization and inspire a sense of purpose in coming together to make a difference in the way we welcome and care for our babies and parents during this time. But where do we begin? What will guide us in our pursuit?

12 GUIDING PRINCIPLES TO SUPPORT HUMAN POTENTIAL FROM THE BEGINNING OF LIFE

In 2008 at Santa Barbara Graduate Institute, we recognized the need to distill the new research and clinical findings that utilize the prenatal and perinatal psychology lens into principles that could more effectively guide parenting practice, professional practice, theory and research. We saw how effectively attachment research, policy, professional practice and writing, and parental practice were aligned with a set of distilled guiding principles.

In a grant project through the Institute, we sought to answer the question, what are the most important principles that inform how we can best support human potential and optimal relationships from the beginning of life? At the core of our principles we sought to provide a lens to view the *continuity of early human life and relationship* from pre-conception forward, and to better understand how to support human potential and optimal relationships throughout the prenatal and infancy periods. We offer them here:

1. The Primary Period

The primary period for human development occurs from preconception through the first year of postnatal life. This is the time in which vital foundations are established at every level of being: physical, emotional, mental, spiritual and relational.

2. Forming the Core Blueprint

Experiences during this primary period form the blueprint of our core perceptions, belief structures, and ways of being in the world with others and ourselves.

- These foundational elements are implicit, observable in newborns, and initiate life-long ways of being.
- These core implicit patterns profoundly shape our being in life-enhancing or life-diminishing directions.

3. Continuum of Development

Human development is continuous from prenatal to postnatal life. Postnatal patterns build upon earlier prenatal and birth experiences.

- Optimal foundations for growth and resiliency, including brain development, emotional intelligence, and self-regulation are predicated upon optimal conditions during the pre-conception period, pregnancy, birth and the first year of life.
- Optimal foundations of secure attachment and healthy relationships are predicated upon optimal relationships during the pre-conception period, during pregnancy, the birth experience and the first year of life.

4. Capacities & Capabilities

Human beings are conscious, sentient, aware, and possess a sense of Self even during this very early primary period.

- We seek ever-increasing states of wholeness and growth through the expression of human life. This innate drive guides and infuses our human development.
- From the beginning of life, babies perceive, communicate, and learn, in ways that include an integration of mind-to-mind, energetic, and physical-sensorial capacities and ways of being.

5. Relationship

Human development occurs within relationship from the beginning. Human connections and surrounding environment profoundly influence the quality and structure of every aspect of baby's development.

- From the beginning of life, baby experiences and internalizes what mother experiences and feels. Father and/or partner's relationship with mother and baby are integral to optimizing primary foundations for baby.
- All relationships and encounters with mother, baby, and father during this primary period affect the quality of life and baby's foundation. Supportive, loving, and healthy relationships are integral to optimizing primary foundations for baby.

6. Innate Needs

The innate need for security, belonging, love and nurturing, feeling wanted, feeling valued, and being seen as the Self we are is present from the beginning of life. Meeting these needs and providing the right environment supports optimal development.

7. Communication

Babies are continually communicating and seeking connection. Relating and responding to babies in ways that honor their multifaceted capacities for communication supports optimal development and wholeness.

8. Mother-Baby Interconnectedness

Respecting and optimizing the bond between mother and baby and the mother-baby interconnectedness during pregnancy, birth, and infancy is of highest priority.

9. Bonding

Birth and bonding is a critical developmental process for mother, baby, and father that form core patterns with life-long implications.

- The best baby and mother outcomes occur when mother feels empowered and supported and the natural process of birth is allowed to unfold with minimal intervention and no interruption in mother-baby connection and physical contact. If any separation of baby from mother occurs, continuity of father's contact and connection with baby should be supported.
- Baby responds and thrives best when the relationship with mother is undisturbed, when baby is communicated with directly, and when the process of birth supports baby's ability to orient and integrate the series of events.

10. Resolving & Healing

Resolving and healing past and current conflicts, stress, and issues that effect the quality of life for all family members is of highest priority. Doing so before pregnancy is best. When needed, therapeutic support for mother, baby, and father provided as early as possible during this vital primary period is recommended for optimal outcomes.

11. Underlying Patterns

When unresolved issues remain or less than optimal conditions and experiences occur during conception, pregnancy, birth and the first postnatal year, life diminishing patterns often underlay health issues, stress behaviors, difficulty in self-regulation, attachment, learning, and other disorders over the life-span.

12. Professional Support

These early diminishing patterns are imbedded below the level of the conscious mind in the implicit memory system, subconscious, and somatic patterns. Professionals trained in primary psychology (prenatal and perinatal psychology) can identify these patterns and support babies, children, parents and adults to heal and shift these primary patterns to more life-enhancing ones at any age. When parents resolve and heal their own unresolved issues from their child's pregnancy and birth, their children benefit at any age.

ACTION TO TAKE NOW

There are many aspects in need of attention to improve human potential during the primary period. We know families must have their needs met first and foremost. Resources and funding should put young families' needs at the top of the list.

We believe strategic planning, resources, and services should begin with universal and culturally appropriate prevention efforts. We see so much need for better education and prevention efforts directed towards young parents of all socio-economic and ethnic backgrounds. For example, here in Santa Barbara, the Welcome Every Baby Program through First Five, provides every baby and family at least three home visits during baby's first postnatal year.

A second tier of intervention would include effective screening to identify families who are at higher risk and provide more comprehensive support for them. The third tier would involve intensive support and intervention to the neediest of families.

From our prenatal and perinatal psychology lens, we also make the following suggestions for immediate action during each phase of the Primary Period.

Pre-Conception

We know that a parent's unresolved trauma and life-long patterns of anxiety, depression, and stress coming into a pregnancy will have a detrimental effect on their baby from the beginning of pregnancy. We recommend more public awareness and services, regardless of income, in order to provide all parents the opportunity to have therapeutic support and effective tools to address mental health issues and health issues, as well as to make healthy changes in lifestyle. This includes detoxification of pollutants and industrial chemicals that could affect the baby, and discontinuing alcohol, tobacco, drugs and medication *prior* to the pregnancy.

Pregnancy

Everything we can do to support mothers to be cared for, healthy, happy, and to have a sense of well-being during pregnancy is of primary importance. Resources for mothers and fathers to de-stress, and individual and couple therapeutic work should be available regardless of income. Programs to encourage peer cohort support during pregnancy with other parents have been very effective. During pregnancy, every effort should be made to assist mothers to prepare for birth, be informed, resolve fears and boost their confidence in their ability to give birth naturally. We see a tremendous loss in human potential when birth becomes traumatic for the baby, mother, and father or when events such as prematurity occur which result in NICU care. The number one priority should be to prevent these BEFORE they happen. So many infancy and childhood problems are set in motion during the birth and bonding period. Prevention and preparation are critical.

Birth

Promote confidence in normal birth for professionals and parents. In addition, trained doula support has been demonstrated to help improve outcomes. We recommend funding doula support programs so that every woman has this resource available to her. The second leading priority is to stop the harmful practice of separating mothers and babies. Continuous skin-to-skin care should be available to all, including NICU babies.

Postpartum

Every effort should be made to allow mother and baby to bond, to breastfeed and to have the privacy and support to get to know each other. Mother, baby and father/partner need support to cocoon with their baby and slowly emerge back into the rest of their lives. The assistance of professionals who have training in prenatal and perinatal psychology is critical during this period to identify unresolved issues and patterns from the birth and newborn period, especially when there have been complications and interventions. Therapeutic treatments of these as early as possible are of highest priority.

Baby's First Postnatal Year

Every possible avenue to support the full range of needs of parents and babies during this first year should be undertaken. New understandings from prenatal and perinatal psychology and health speak to the baby's early vulnerabilities, capacities and their sentient nature. They call for us to evolve how we communicate with babies and support their potential. When these changes are integrated in the parent-infant relationship, significant improvements in regulation and attachment occur, as well as a fuller expression of the child's truer potential. Mainstream professional practice, parent education, and parenting practices have yet to fully integrate prenatal and perinatal psychology findings. Thus, funding avenues of education, training, and information dissemination of this information is seminal to maximizing human capital.

IMAGINE A WORLD...

Where every baby is welcomed, loved, nurtured, and seen for the amazing, conscious and aware being they are from the beginning of life. As these babies grow, so does their capacity to love, to empathize with others, to be in relationship and to live in joy. As our first generation matures, we would see the ripple effect grow to encompass greater learning capacity, emotional intelligence and creativity, the emergence of new leaders, and healthier families and communities. Our potential is unlimited. It is time for us to come together to infuse our culture and communities with the vision, resources, and commitment to support each new member from the very beginning of their life. It is time for them to know they are vital to our community and worthy of this commitment.

REFERENCES

Kilburn, M. R. & Karoly, L. A. (2008). What does economics tell us about early childhood? RAND Corporation research brief series. Retrieved as pdf 10/24/08 from www.rand.org/pubs/research_briefs/RB9352/

The science of early childhood development: Closing the gap between what we know and what we do. (2007). Executive Summary. The National Scientific Council on the Developing Child. Retrieved 10/24/08 from www.developingchild.net/pubs/pubs.html

RESOURCES

Early Childhood and Economics

Baby Futures Experts page offers several key articles to download www.babyfutures.org

National Scientific Council Center on the Developing Child at Harvard University www.developingchild.net

Rand Report: The Economics of Early Childhood Policy www.rand.org/pubs/occasional_papers/OP227/

World Association of Infant Mental Health Professional association; Infant Mental Health Journal www.waimh.org

 ${\bf Zero\text{-}to\text{-}Three} \\$ ${\bf www.zerotothree.org}$

Prenatal and Perinatal Psychology

Natural Family Living~Right From the Start 12 Guiding Principles pdf available for download www.naturalfamilylivingsb.org

Santa Barbara Graduate Institute Prenatal and Perinatal Psychology Degree Programs www.sbgi.edu