



Baby's Brain Begins Now

Conception to Age Three

Children undergo a remarkable period of brain development between conception and age three. By the time a child is born, her brain already has about 100 billion neurons, the nerve cells that are the basic working units of the brain. But brain development is far from complete. In order to function, a neuron needs strong and accurate connections with other neurons. These connections (or synapses) allow neurons to send and receive information, and the brain's networks of neurons and synapses form the foundation of learning, memory and thought. 1,2

In areas of the brain related to advanced functions like language, most connections are formed in the first three years of life. In fact, the brain forms many more synapses than it needs, then gradually prunes away connections which are rarely or never used. A child's early experiences help decide which connections become stronger and which connections are eliminated.³

This is why the first three years are so important in a child's life. When her parents hold her, talk to her, and play with her, they are strengthening brain networks related to language, emotion, and behavior, and promoting the development of skills necessary for school readiness, social adjustment, and academic success.

Demographics ⁴ Environments Faced by Children in Shelby County

	SHELBY COUNTY	MEMPHIS	SUBURBAN SHELBY COUNTY
Children, 2008			
	245,712 (100%)	167,787 (68%)	77,925 (32%)
Children by Age, 2008			
Under 5 years	69,621 (26%)	52,176 (28%)	17,445 (21%)
5 to 9 years	66,202 (24%)	46,147 (25%)	20,055 (24%)
10 to 14 years	66,593 (25%)	43,027 (23%)	23,566 (28%)
15 to 17 years	43,296 (16%)	26,437 (14%)	16,859 (20%)
18 to 19 years	25,081 (9%)	18,739 (10%)	6,342 (8%)
Children by Race, 2008			
Black	140,110 (57%)	119,438 (71%)	20,672 (27%)
White	75,490 (31%)	27,681 (17%)	47,846 (66%)
Hispanic	17,080 (7%)	13,488 (8%)	3,592 (5%)
Median Family Income by	Presence of Children	, 2008	
Total Median Family Income	\$58,055	\$45,540	N/A
Median Family Income with Children	\$51,259	\$34,931	N/A
Median Family Income without Children	\$63,183	\$54,564	N/A
Children in Poverty, 2008			
In Poverty	67,002 (28%)	59,437 (36%)	7,565 (10%)
Out of Poverty	174,754 (72%)	104,809 (64%)	69,765 (90%)
Children Living in Poverty	by Living Arrangeme	ent, 2008	
Married Parents	9,892 (15%)	7,897 (13%)	1,995 (27%)
Unmarried Parents	56,091 (85%)	50,648 (87%)	5,443 (73%)
Median Annual Income by	/ Educational Attainm	ent, 2008	
Less than High School Graduate	\$17,599	\$17,409	N/A
High School Graduate (includes equivalency)	\$24,273	\$21,675	N/A
Some College or Associ- ate's Degree	\$31,512	\$28,605	N/A
Bachelor's Degree	\$47,559	\$43,953	N/A
Graduate or Professional Degree	\$59,702	\$55,447	N/A
Households by Presence o	f Children, 2008		
With Children	121,590 (36%)	80,037 (33%)	41,553 (43%)
Without Children	219,999 (64%)	164,892 (67%)	55,107 (57%)

Health ⁵ Shelby County Birth Outcomes

	SHELBY COUNTY	TENNESSEE		
Births by Race, 200	8			
Total	15,046	85,480		
Black	8,971 (60%)	18,148 (21%)		
White	5,581 (37%)	65,093 (76%)		
Infant Deaths and re	Infant Deaths and rate/1,000 Live Births by Race, 2008			
Total	185 (12.3)	686 (8)		
Black	158 (17.6)	273 (15)		
White	26 (4.7)	398 (6.1)		
Low Birth Weight Bi	rths by Race, 2008			
Total	1,648 (11%)	7,844 (9.2%)		
Black	1,235 (13.8%)	2,519 (13.9%)		
White	381 (6.8%)	5,130 (7.9%)		
Births by Mother's Marital Status, 2008				
Unmarried	9,229 (61%)	37,634 (44%)		
Married	5,817 (39%)	47,789 (56%)		
Women who Reported Smoking During Pregnancy, 2008				
	7.3%	18.8%		

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Family/Home Environment 6

	SHELBY COUNTY		
Some people believe that learning starts in kindergarten. Others believe that learning begins at birth. Which is closer to your belief?			
Birth	96%		
Kindergarten	4%		
A child's ability to learn is set from birth, so the parents' interaction with the child does not affect brain development			
Strongly disagree	56%		
Disagree	29%		
Somewhat agree	4%		
Agree	6%		
Strongly agree	5%		
Talking to a baby is not that important to its brain development			
Strongly disagree	67%		
Disagree	24%		
Somewhat agree	<1%		
Agree	3%		
Strongly agree	6%		
Holding a baby is impo	rtant to its brain development		
Strongly agree	67%		
Agree	22%		
Somewhat agree	49		
Disagree	3%		
Strongly disagree	39		
Looking a baby in the eye is important to its brain development			
Strongly agree	62%		
Agree	26%		
Somewhat agree	7%		
Disagree	2%		
Strongly disagree	2%		

Data for Family/Home Environment and Community are ased on survey information of Shelby Countians with children.

Note: As a result of rounding the percentages not all tables will add up to 100%.

Public Awareness of the Importance of Early Brain Development*

	SHELBY COUNTY		
Spanking a baby has no effect on its brain development			
Strongly disagree	43%		
Disagree	35%		
Somewhat agree	12%		
Agree	6%		
Strongly agree	5%		
How important would you say that early nurturing experiences before age three are in better preparing a child for kindergarten?			
Extremely Helpful	63%		
Very Helpful	28%		
Somewhat Helpful	9%		
Not Very Helpful	<1%		
Not Helpful at All	1%		
	ny that early learning experiences reparing a child for kindergarten?		
Extremely Helpful	52%		
Very Helpful	29%		
Somewhat Helpful	15%		
Not Very Helpful	1%		
Not Helpful at All	2%		
If we want to improve the quality of learning for children in Shelby County, where should we invest our public dollars?			
Birth to 3 years	15%		
3 to 5 years	20%		
Elementary School	32%		
Middle School	19%		
High School	14%		

Community ⁶ Social Support and Residential Stability in Shelby County*

	SHELBY COUNTY	MEMPHIS	SUBURBAN SHELBY COUNTY	
How many good friends do you have who live in your neighborhood?				
0	38%	N/A	N/A	
1-4	41%	N/A	N/A	
5-10	12%	N/A	N/A	
more than 10	10%	N/A	N/A	
How many children or tee	enagers living in your	neighborhood do yo	u know by name?	
0	26%	N/A	N/A	
1-4	25%	N/A	N/A	
5-10	28%	N/A	N/A	
more than 10	22%	N/A	N/A	
In the past month have you received any help with things like child care, transporta- tion, finances, temporary lodging, repairs to your car or home, any other kinds of work around the house?				
Yes	29%	N/A	N/A	
No	70%	N/A	N/A	
How many times have yo	u moved in the last y	ear?		
0	71%	N/A	N/A	
1	19%	N/A	N/A	
2	8%	N/A	N/A	
3	2%	N/A	N/A	
more than 3	<1%	N/A	N/A	
Children who moved in the past year ⁴				
Age 1-4 years	18,033 (33%)	15,405 (38%)	2,628 (19%)	
Age 1-4 years who moved within the county	15,240 (85%)	13,035 (85%)	2,205 (84%)	
Age 5-17 years	36,711 (21%)	25,646 (26%)	6,204 (11%)	
Age 5-17 years who moved within the county	31,037 (85%)	25,646 (84%)	5,391 (87%)	

Education ⁷ Kindergarten Readiness in Shelby County

Pre-Test	Post-Test	
Memphis City School Pre-Kindergarten Reading Peabody Picture Vocabulary Test*		
83	92.8	

*Memphis City School pre-kindergarten students take the Peabody Picture Vocabulary Test upon entering the program (Pre-Test) and retake the same test upon leaving the program (Post-Test) to determine overall improvement from start to finish.

	Language Score (Max. Score: 86)	Math Score (Max. Score 27)	
Memphis City School Kindergarten Readiness Average Score by Type of Child Care, 2009			
MCS Pre-K	59.9	19.8	
Head Start	53.6	17.9	
Child Care	52.5	17.4	
Parent Relative Care	37.7	13.5	

Best Practice 8 Early Childhood Interventions that Work

	AVERAGE BASELINE SCORE	AVERAGE FOLLOW-UP SCORE	PARTICIPANTS WHO IMPROVED	AVERAGE SCORE IMPROVED
Porter Leath Early Head Start Participants Early Learning Accomplishment Profile (E-LAP)				
Gross Motor Skills	75.6	83.4	92%	10%
Fine Motor Skills	44	58.2	95%	32%
Cognitive Skills	58.8	77.9	97%	32%
Language Skills	30.8	43.2	97%	40%
Self-Help Skills	25.3	36.1	95%	43%
Social-Emotional Skills	27.2	34.2	83%	26%
Total E-LAP Score	43.6	55.5	97%	27%

Early Head Start participants take the Early Learning Accomplishment Profile test upon entering the program (Baseline) and retake the same test upon leaving the program (Follow-up) to determine overall improvement from start to finish.

Porter-Leath is a Memphis nonprofit agency serving 10,000 at-risk children and families with a wide array of services including home visitation, high-quality preschool, and nutrition programs. In 1998, Porter-Leath became the first Shelby County provider of the federal Early Head Start program, created earlier in the 90's to extend the benefits of the Head Start preschool program to children under 3. Until recently, Porter-Leath's Early Head Start program, with 95 slots, was the only one in Shelby County, where almost 30 percent of children are in poverty.

Nationally, children enrolled in Early Head Start have better cognitive, behavioral, and social outcomes at age three than their peers from similar backgrounds. The results of a recent Porter-Leath assessment show that their program has similarly positive effects. Using the Early Learning Accomplishment Profile, Porter-Leath compared the scores of children completing the program with the scores made by the same children when they first enrolled. Group averages show that children benefited significantly, overall, from participation in Early Head Start—particularly in cognitive, language, and motor skills.





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For more complete data, reporting, analysis, and sources please visit our website www.theurbanchildinstitute.org and download the full version of The State of Children in Memphis & Shelby County: Data Book 2010.