



## How Boys and Girls Learn Differently

### Male

#### Pre-Birth

- Develops testosterone
- Same structural brain first six weeks
- Set male brain immune to female hormones
- Fetus generally more active, restless
- Male cortex develops slower
- At six weeks, sex is identified and brain changes
- Brain is more lateral than females
- Less flexible
- Greater idling in brain stem
- Brain 10% larger than girls

#### Infants

- Prefers mechanical or structural toys
- Looks at objects for shorter, but more active, periods
- Gazes at mother half as long as girl does
- Motor activity more vigorous than girls
- At one week, cannot distinguish another baby's cry from background noise
- At four months of age, cannot distinguish faces of people in photos
- Sensitive to salty foods
- Less sensitive to physical sensation on skin
- More easily angered
- Better narrow vision and depth perception

### Female

- Develops estrogen
- Same structural brain first six weeks
- Set female brain immune to male hormones
- Fetus is less active
- Female cortex develops faster
- Normal brain appears to be female
- Brain is less lateral than males
- More flexible
- Greater idling in cingulate gyrus
- Brain 10% smaller than males

- Prefers soft, cuddly toys
- Plays with objects for longer periods, but less activity
- Play is more sanguine
- At one week, able to distinguish another baby's cry from background noise
- At four months of age, able to recognize faces of people known in photos
- Sensitive to bitter taste, prefers sweets
- More sensitive to physical sensation on skin
- More easily saddened
- Better peripheral vision



### **Infants, cont.**

- ⦿ Superior perception at blue end of color spectrum
- ⦿ Take in less sensory proximal data
- ⦿ Left eye dominate
- ⦿ Less bothered by loud noises
- ⦿ Less interested in soft, cooing words and singing
- ⦿ 25% higher mortality rate
- ⦿ Superior perception at red end of the color spectrum
- ⦿ More attuned to sensory input
- ⦿ Equal visual skill with either eye
- ⦿ Less tolerant of loud noises
- ⦿ More comforted by soft, cooing words and singing

### **Preschool**

- ⦿ Speaks first words later than girls
- ⦿ By age four and a half, 99% of speech is comprehensible
- ⦿ Shows greater interest in exploring once standing is mastered
- ⦿ Greater muscle mass already evident by age three
- ⦿ Less able to multi-task
- ⦿ Hears better in right ear
- ⦿ Better auditory memory
- ⦿ More likely to ignore voices, even parents
- ⦿ More physically impulsive
- ⦿ Develops better vocabulary earlier than boys
- ⦿ By age of 3, 99% of speech is comprehensible
- ⦿ Even after mastering standing, does not roam as freely as boys
- ⦿ Greater concentration of fatty tissue still more evident than muscle at age three
- ⦿ Better ability to multi-task
- ⦿ Better visual memory
- ⦿ Less likely to ignore voices, especially those familiar

### **Pre-Kindergarten**

- ⦿ One-directional, less cross talk, more focused
- ⦿ Occupies larger space on playground
- ⦿ Playground activities involve more running
- ⦿ Playground games are rough and vigorous, competitive and aggressive
- ⦿ More cross-talk as shown by approach to activities
- ⦿ Congregates in groups of other girls in smaller spaces, often huddling together
- ⦿ Playground games are quieter and less active, more cooperative



### **Pre-Kindergarten, cont.**

- ⦿ Playing with blocks, builds high structures likely to topple over
- ⦿ Newcomers to group ignored until they prove their worth and value
- ⦿ Stories filled with excitement and action, ignoring victims
- ⦿ Games involve bodily contact, tumbling, continuous flow of action
- ⦿ Primarily interested in objects and things
- ⦿ Saying good-bye to mom takes approximately 30 seconds
- ⦿ Uses dolls for attack weapons and warfare
- ⦿ More speech problems
- ⦿ Picks same gender peers for friends
- ⦿ Expresses emotions through actions
- ⦿ Less sensitive to social and personal context
- ⦿ Less attention span and empathy
- ⦿ Playing with blocks, tends to build low and long structures
- ⦿ Newcomers greeted more warmly
- ⦿ Stories pay attention to human dynamics, particular concerns with victim's feelings
- ⦿ Games involve turn taking and indirect competition most of the time
- ⦿ Primarily interested in people and relationships
- ⦿ Saying goodbye to mom takes approximately 90 seconds
- ⦿ Uses dolls for playing out domestic scenes
- ⦿ Fewer speech problems, seems to differentiate sounds better
- ⦿ Picks same gender peers for friends
- ⦿ Expresses emotions through words
- ⦿ More sensitive to social and personal context
- ⦿ Greater attention span and empathy

### **Kindergarten**

- ⦿ Takes longer to attain reading mastery
- ⦿ Superior at certain visual tasks in bright light
- ⦿ Better at test requiring circling the answer
- ⦿ Better in math
- ⦿ Better at three dimensional reasoning
- ⦿ More rule-bound than girls
- ⦿ 95% of hyperactive children
- ⦿ More able to separate emotion from reason
- ⦿ Reads better and sooner than boys
- ⦿ Superior at seeing in low light
- ⦿ Superior at hearing
- ⦿ Better at test requiring listening to questions being read
- ⦿ Better verbal abilities
- ⦿ Better at grammar and vocabulary
- ⦿ Less bound by arbitrary rules
- ⦿ Only 5 % of hyperactive children
- ⦿ Less able to separate emotions from reason
- ⦿ 3 times better at reading as auditory activity