

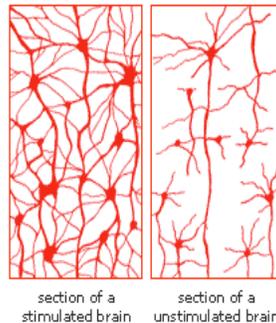
THE ONE AND ONLY

By Tracey Tokuhamma-Espinosa

Tonight you will go to bed with a different brain than the one with which you woke up this morning. Why? Experience. There are no two identical brains in the world.

Just as faces are unique though they share similar basic features (two eyes, a nose, a mouth, etc.), brains share similar basic structures (frontal, occipital, parietal lobes, etc.), though there are no two alike.

What about twins, you might be thinking. Though they have extremely similar genetic structures, the brains of twins are unique and the reason, once again, is experience. One baby was on the left with his ear pushed up close against the wall to the outside world and the other held his head between his hands and perceived external sound and light in a different way, creating slightly different connections in his forming brain. This changes the physical structure between neurons and fortifies those, which are stimulated; meaning each day the brain is changed by experience.



SIZE ISN'T EVERYTHING

There are normal anatomical differences between brains as well. Men's brains tend to be slightly larger than women's, but we all know size isn't everything.

Women's brains tend to be slightly more active over a wider area when performing certain tasks (Diamond 1999) and at least one specific area, the corpus callosum--the band of fibers connecting the two hemispheres of the brain which is responsible for communication between the two sides--is also slightly larger in women than in men. Some neuroscientists have hypothesized that this contributes to women's abilities to "multi-task", while men do not perform as well when asked to do more than one thing at a time. This has been dismissed in modern neuroscience as multitasking itself does not exist in terms of brain functioning (Dismukes, Loukopoulos & Barshi, 2012; Rosen, 2008).

Size of certain parts of the brain offers other types of insights. In one study of male homosexual brains (LeVay, 1996) it was found that a certain area at the base of the brain stem showed smaller clusters of cells than in heterosexual male brains; in fact, the male homosexual brains looked very similar to female brains in this area. If further studies are done to corroborate such findings, the debate about whether people are born homosexual or choose homosexuality may be put to rest.

The greatest period of cranial growth is between 0-3 years old, though recent studies have shown that radical changes rivaling an infant's "terrible twos" also occur in the teenage brain. Jay Giedd is known for his longitudinal studies of teenagers at the National Health Institute in Washington D.C. and notes that the adolescent brain undergoes radical restructuring during the teen years that relate to logic, language as well as impulse reaction. Having said that, we now know that the brain continues to learn throughout the lifespan and that this type of restructuring is due to development as well as external life experiences.

It is believed that major changes in chemical and hormonal balance which regulate not only body growth, but also sleep patterns, continues to be fine-tuned during adolescence, which in some cases ends as early as 16, but in others may take as long as 25 years to complete. Carskadon's studies show secretion of the hormone melatonin (from pineal gland), which promotes sleepiness, starts about an hour later in the evening in adolescents than in pre-pubescent children, and ends about an hour later in the morning. This may explain why early morning classes are not necessarily the most popular among students.

THE PERFECT DIET

While we all have a unique brain, one thing we have in common in its functioning potential, if you don't use it, you lose it. The brain consumes approximately 20% of the total calories you consumer. Want to lose weight? The perfect diet is simple: *Think*.

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