Before 1960, the brain was considered by scientists to be immutable, subject only to genetic control. In the early sixties, however, investigators were seriously speculating that environmental influences might be capable of altering brain structure. By 1964, two research laboratories proved that the morphology and chemistry or physiology of the brain could be experientially altered (Bennett et al. 1964, Hubel and Wiesel 1965). Since then, the capacity of the brain to respond to environmental input, specifically enrichment, has become an accepted fact among neuroscientists, educators and others. In fact, the demonstration that environmental enrichment can modify structural components of the rat brain at any age altered prevailing presumptions about the brains plasticity (Diamond et al. 1964, Diamond 1988). The cerebral cortex, the area associated with higher cognitive processing, is more receptive than other parts of the brain to environmental enrichment. The message is clear: Although the brain possesses a relatively constant macrostructural organization, the ever-changing cerebral cortex, with its complex microarchitecture of unknown potential, is powerfully shaped by experiences before birth, during youth and, in fact, throughout life. It is essential to note that enrichment effects on the brain have consequences on behavior. Parents, educators, policy makers, and individuals can all benefit from such knowledge.

Keywords
enrichment, cerebral cortex, hippocampus, aging, adult neurogenesis, dendrites.