Sample Level 3 editing

Neuroscience (National Taiwan University 國立台灣大學)

- A native-speaker of English who has studied Medicine edited the English.
- Another native-speaker of English who is an expert proofreader then checked the manuscript.

INTRODUCTION

The ~~C~~corpus callosum (CC), containing more than 300 million axons, is~~,~~ the major interhemispheric commissure that ~~with more than 300 million axons, inter~~connects most of the cortical areas in the brain and is responsible for integrating ~~the~~ sensory, cogniti~~on~~ve, motor, and learned information between two cerebral hemispheres. ~~Most of the~~ ~~c~~Callosal fibers enter the CC ~~attached~~ from homologous cortical areas~~,~~ ~~enter to CC,~~ and course medially in a compact bundle according to ~~by~~ a topological model, ~~to~~ terminat~~e~~ing in the opposite ~~mirror image~~ hemisphere, as well as in heterotypical areas (Clarke and Zaidel, 1994; Witelson, 1989). Using MRI, ~~the~~ architecture and ~~the~~ morphology of the CC have been identified and extensively described. ~~Plenty s~~Studies have shown tha~~t the~~ callosal morphology at the mid-sagittal region may be related to dyslexia (Hynd et al., 1995), schizophrenia (Brambilla et al., 2005; Miyata et al., 2007; Narr et al., 2002; Narr et al., 2000; Randall, 1983), Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) (Thompson et al., 2006), Williams syndrome (Luders et al., 2007; Tomaiuolo et al., 2002), Attention-Deficit Hyperactivity Disorder (ADHD) (Giedd et al., 1994; Semrud-Clikeman et al., 1994; Skranes et al., 2007), and bimanual

Comment [O1]: CHECK: these are normally written without capitals

Comment [TK2]: CHECK: It is not quite clear how HIV/AIDS (a viral infection disease) can be related to CC morphology. All the other diseases listed here are brain related disorders, so it all makes sense. Consider providing some more information or omit the HIV studies from the list and just stick to a list of brain related disorders.

function (Meyer et al., 1998; Muetzel et al., 2008).

Comment [O3]: CHECK: do you mean 'dysfunction'?

There are no characteristic landmarks by which the mid-sagittal ~~that can delimit the~~ structural and functional callosal-subdivisions may be identified ~~at the mid-sagittal section in spite of the substance of CC has been well exposed~~. Numerous approaches have been proposed to subdivide the CC into several geometric partitions, including sectioning the CC according to its specific fractions of the maximal anterior-posterior length, particular angular rays from the callosal centroid, and several rays normal to a series of equidistant nodes on the ventral callosal boundary –(Clarke et al., 1989; de Lacoste et al., 1985; Duara et al., 1991; Rajapakse et al., 1996; Stievenart et al., 1997; Weis et al., 1993; Witelson, 1989). Even though ~~Among these reports, the landmarks subdivide the corpus callosum according to its specific fractions of the maximal anterior-posterior length, particular angular rays from the callosal centroid, and several rays normal to a series of equidistant nodes on the ventral callosal boundary. In spite of~~ the topographic arrangement between the~~importance of~~ CC ~~topography to~~and specific cerebrum lobes has been previously elucidated~~realized~~ (Witelson, 1989), the currently available –techniques limit acquisition of ~~limit makes the~~ topographical~~y~~ distribution ~~acquired to only from~~ experimental work with primates, clinical work with humans, and direct 50 postmortem measurements. It is very difficult to collect data from young, ~~Subtle measurement from~~ healthy ~~young generation can hardly be achieved.~~subjects.

Comment [TK4]: CHECK: What are direct 50 postmortem measurements? Is it an industry specific term? Consider clarifying for readers not familiar with the field.

~~The d~~Development of diffusion tensor magnetic resonance imaging (DT-MRI) has provided a unique approach for non-invasively

gathering ~~access to the~~ information ~~of~~regarding microstructures of white matter ~~non invasively~~ (Basser et al., 2000). This technique reveals the major orientation of fiber tracts by measuring ~~the water~~ molecular diffusivity of water within fibrous brain tissue~~s~~. ~~F~~First, eigenvector of the tensor model and ~~the~~ streamline-based tractography algorithms have been employed to reveal white matter pathways within the brain, ~~such as~~ including cortical spin~~a~~le tracts, ~~,~~occipitofrontal fascicle and ~~,~~superior longitudinal fascicle (Makris et al., 2007; Wakana et al., 2004). Furthermore, ~~subdivision of~~ distinct tissues such as the ~~,~~thalamus, BA 44/45, ~~and~~ SMA/pre-SMA and ~~,~~internal capsule have ~~, has~~ been parcellated by utilizing underlying white matter pathways (Johansen-Berg et al., 2005; Klein et al., 2006; Zarei et al., 2007). In addition, ~~V~~vertical segments of the CC have been used ~~and~~ for ~~revealing~~visualizing top ~~the top~~ographical distribution of fiber connections to the cortical regions ~~have been also revealed~~ (Abe et al., 2004; Dougherty et al., 2005; Hofer and Frahm, 2006; Huang et al., 2005; Park et al., 2008; Styner et al., 2005; Wahl et al., 2007; Zarei et al., 2006). However, ~~D~~due to ~~the~~ inherent limitations of the diffusion tensor model in describing neural ~~heterogenity~~heterogeneity, it is difficult to resolve ~~nonetheless, the~~ neural projections ~~of~~ from the CC toward the lateral and ~~the~~ inferior brain regions ~~can hardly be resolved~~ (Hofer and Frahm, 2006; Park et al., 2008).