

Cognitive Reserve and Dementia in Elderly Koreans

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Prevalence of dementia is relatively high in South Korea compared to other countries and one of the contributing factors that has been suggested is the significant portion of the elderly population with little education especially women (Kim et al, 2011; Kim et al, 2003, Lee et al, 2002, Park et al, 1994,). Cognitive reserve (CR) explicates this association with education as proxies of the CR that moderates the effects of brain pathology on clinical outcome: i.e., people with greater CR can withstand the impact of neurodegeneration better with more efficient cognitive capacity that has been developed throughout life (Stern, 2002.) In a recent study (Kim, Chey, Kim, and Kim, 2015) we have found that the brain metabolism and network characteristics of elderly Koreans with low education were significantly different from those with higher education in that they had higher metabolism in brain regions involved in motor and tactile skills and lower metabolism in regions involved in learning, language, and brain plasticity. Furthermore, the study demonstrated that elderly people with higher education had more connectivity between distant regions

and more resilience to random or targeted attacks utilizing graph theory measures. Possible interventions to enlarge the CR are discussed in the context of elderly Koreans.