

Proxies of cognitive reserve and performance on the Stroop Color-Word Test: results of the six years follow-up of the Maastricht Aging Study

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Age-related decline of performance is typically seen across a variety of cognitive tasks, particularly in relation to executive functioning. This age-related decline may be moderated in later adulthood by individual characteristics. A central theme in recent aging research has been examination of the proposition that favourable life experiences and abilities of individuals may forestall or attenuate age-related cognitive decline. The concept of cognitive reserve (CR) provides a possible explanatory mechanism for these findings. Various proxy measures of CR have been proposed, including education, verbal intelligence, active lifestyle and mental stimulation due to professional activities. The purpose of the present study was to evaluate the effects of these multiple proxies of CR on selective attention and general information processing speed. Longitudinal data from the Maastricht aging study were used to investigate the effects on age-related change of performance on the Stroop color-word test. The sample consisted of 489 individuals aged 50-75 tested 3 times over six years. Higher age was associated with more decline of performance on both cognitive measures. When examined in separate models, vocabulary was positively associated with both cognitive measures. Job stimulation only had a positive effect on general information processing and both education and active lifestyle showed no statistically significant associations. Specific effects were attenuated when these proxies were entered together in one overall model. In fact, in this analyses proxies showed no independent significant associations anymore with selective attention. However, vocabulary and job stimulation were still positively associated with general information processing. Implications of these differential effects on selective attention and general information processing will be discussed in terms of the nature of the proxies and the cognitive measures.

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