Abstract

Some studies show positive correlations between intraindividual variability in elementary speed measures (reflecting processing efficiency) and individual differences in neuroticism (reflecting instability in behaviour). The so-called neural noise hypothesis assumes that higher levels of noise are related both to smaller indices of processing efficiency and greater levels of neuroticism. Here, we test this hypothesis measuring mental speed by means of three elementary cognitive tasks tapping similar basic processes but varying systematically their content (verbal, numerical, and spatial). Neuroticism and intelligence are also measured. The sample comprised 196 undergraduate psychology students. The results show that (1) processing efficiency is generally unrelated to individual differences in neuroticism, (2) processing speed and efficiency correlate with intelligence, and (3) only the efficiency index is genuinely related to intelligence when the colinearity between speed and efficiency is controlled.