Abstract

Dopamine is a neurotransmitter that plays a role in an individual’s working memory capacity. Poor dopamine function is associated with many health issues, including ADHD and Parkinson’s disease. Research suggests that there is a relationship between dopamine functioning and spontaneous eyeblink rate. If a strong relationship is identified, spontaneous eyeblink rate could be used as an early detection method for diseases caused by dopamine deficiencies. The purpose of this study was to examine the relationship between eyeblink rate and working memory to add supporting evidence to current literature. We hypothesized that spontaneous eyeblink rate would be positively associated with working memory scores. The study measured the spontaneous eyeblink rate of $N = 361$ individuals using an EyeLink 1000 Plus eye tracker. Participants completed two tasks to assess their visuospatial (symmetry span) and verbal (operation span) working memory abilities. Their scores on these tasks were aggregated into an overall working memory score. The results do not support a significant linear relationship between spontaneous eyeblink rate and working memory.