The Operation Span Test (OSPA) is widely used to assess working memory capacity. However, this instrument was rarely used to test Japanese participants because its task was not sufficiently difficult. The mean score for the original computerized OSPAN often reached a ceiling when Japanese participants were tested. In this study, we developed a computerized version of OSPAN for Japanese participants by increasing the task difficulty of the arithmetic procedures. The OSPAN scores were normally distributed and the mean score was approximately 50%. There were positive correlations between OSPAN scores and other scores of working memory measurements, such as a reading span test and a digit span test. These results suggest that the Japanese OSPAN is a reliable and valid measurement of working memory to test Japanese participants.

**Keywords**: working memory, Operation Span Test, Reading Span Test.