

**虚偽検出場面における新たな計測手法
—機能的近赤外線分光法を指標として—**

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New measurement technique in detection of deception by functional near-infrared spectroscopy

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The purpose of the present study is to investigate whether functional near-infrared spectroscopy (fNIRS) can be used as a new psychophysiological index for detection of deception. After completing a mock crime task, 14 graduate and undergraduate students participated in a Guilty Knowledge Test (GKT). During the GKT, change in oxyHb level in the prefrontal cortex area was measured by fNIRS. As a result, the increase in the oxyHb level induced by the critical question of the GKT was higher than that induced by the non-critical question. This difference in the oxyHb level detected the lies in the GKT with 91% accuracy. The present study indicates that the fNIRS measurement can detect lies as good as conventional psychophysiological indexes such as respiration, blood pressure, pulse wave, or electrodermal activity.

Keywords: functional near-infrared spectroscopy (fNIRS), detection of deception, guilty knowledge test (GKT)