

Tourists' impulse buying behavior measurement at duty-free shops using fNIRS

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Citation: It will be updated soon. Please contact admin.

Experimental paradigm

There are two experimental sessions consisting of block designs. We designed impulse buying and non-impulsive buying behaviors to represent brain activation patterns. Each session lasted approximately 5 min; Trial number display (1 s), task (25 s), and intertask break (35 s) periods across 5 trials. We instructed participants to read the following simulated scenarios:

In (a), Session 1, you earn enough living expenses at work or are given it from your parents every month. After you decided to travel abroad, you also got a chance to shop at duty-free shops, which are more than 30% cheaper than online shopping malls. It's a sudden trip, so you can only buy products at online duty-free shops for 20 minutes.

In (b), Session 2, you earn enough living expenses at work or are given it from your parents every month. You have an online shopping mall that you frequently access in your daily life.

In both (a) and (b), participants should select whether to purchase the product that will appear on the screen. The order of the sessions was randomized for each participant and counterbalanced across our study. At the end of each session, participants filled their own reports on impulsive inventory, as a scale of impulsiveness.

Data recording

The fNIRS data were recorded by a two-wavelength(780-850nm) continuous-time multi-channel fNIRS system (NIRSIT Lite, OBELAB, Seoul, Korea) consisting of 15 light channels. Each channel was placed on prefrontal cortex (PFC) around forehead, where Figure 1 depicts the placement of the fNIRS optodes. Five sources were placed on positions green circles, whereas seven detectors were placed on yellow circles. Emitter-detector distance was 3 cm for contiguous optodes and were attached to the forehead. The center of the middle probe set row was placed approximately at FPz, according to the 10-20 international system.

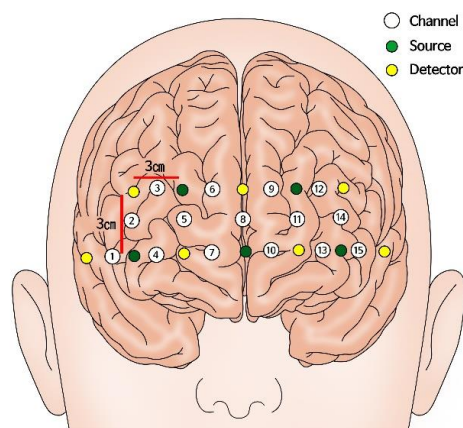


Figure 1 The topographical distribution of the fNIRS recording channels