Wearable Technology Design for Stress Recognition: Device Capable of Recognizing Stress on Students Caused by Standardized Tests

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People are usually aware of their high stress levels only when it is observed by a physician by means of blood pressure measurements or other tests. By this time, stress has turned into a medical condition. It could be life changing to be able to measure stress before it affects human health, therefore, the researcher proposes the use of wearable technology. Wearable technologies are accessories incorporating advance electronic equipment that can be designed for practical functions. Based on that, the researcher asked the following question: Can a wearable technology device be created to measure stress levels? The purpose of this study was to evaluate the effectiveness of a W-TDSR (Wearable Technology Design for Stress Recognition) while answering a standardized test. This device measured skin conductance (according to body temperature changes) as a sign of stress. Phase 1 of this study was completed by building the microprocessor, LED, and a Galvanic Skin Response (GSR) device prototype. In Phase 2, twenty subjects were selected and their blood pressure and heart rate were measured before and after test. The measurements were compared to the readings of the device (used during test). It was found that there is a direct correlation between the W-TDSR device readings and blood pressure measurements of stress levels. The students' stress levels were inversely proportional to the score obtained on the test: the greater the stress, the lower the score. A W-TDSR is the future technology for detecting stress levels on time.

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