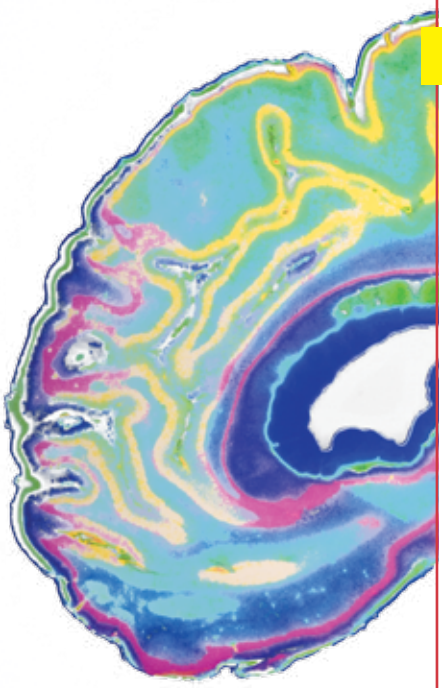

THE HUMAN LAB:

REVEALING THE EMOTIONAL BRAIN

// Monday, March 13, 2017 //

Do emotions "auto-pilot" decisions? For the first time ever, there's technology that can measure multiple biometric characteristics at once and bring all that data into one, easy-to-read program. The Human Behavior Laboratory at Texas A&M University is using this advanced technology, making our lab not only the largest of its kind in the world, but also the fastest in collecting data.

How does it help you?

Through eye tracking, researchers can determine how many times a subject looks at an object, and how long they fixate on it. In addition, pupil size can indicate arousal. Suppressed blinks indicate concentration, while more active blinks indicate less attention is required.

To gauge emotional states, facial expressions can be detected, indicating general emotional responses (positive, negative or neutral). The equipment can also identify basic emotions such as joy, anger, surprise, fear, sadness, disgust and contempt.

The measurement of sweat on the skin, or Galvanic Skin Response (GSR), indicates arousal or stimulation.

The heart and respiration rates can point to several psychological reactions, such as arousal, cognitive and physical effort, and attention. The heart rate declines when attention increases, and rises when arousal increases.

Using a non-invasive electroencephalogram (EEG) brain scanner, researchers can assess cognitive engagement and monitor workload in the cerebral cortex by measuring electrical flow of the brain directly from the scalp.

The amount of time can be measured and recorded, allowing the researcher to analyze which decisions were instantaneous, and which required more thought or emotion.

Subjects tend to lean in when they are engaged. This distance can also be measured and tracked to indicate interest.

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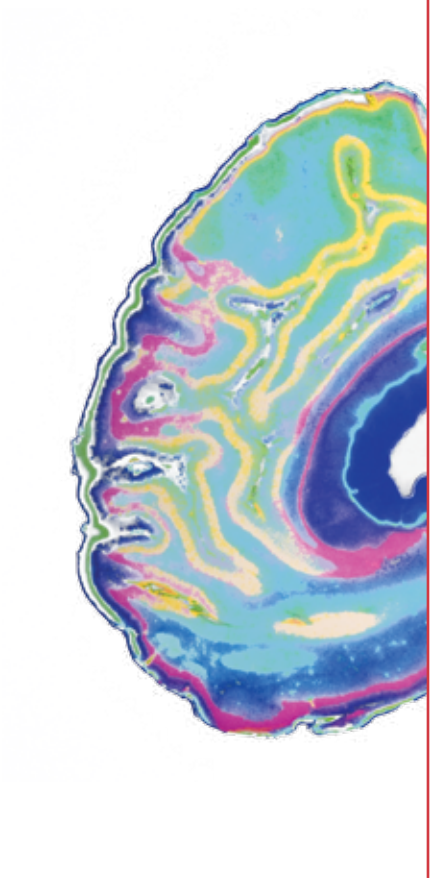

THE HUMAN LAB: REVEALING THE EMOTIONAL BRAIN

(continued)

Our Research

Humans are not the rational decision makers we tend to believe we are. We like to think we use logic, reason, and well-disciplined intellectual processes.

Turns out, we don't.

Facts, reasons and intentions play into our decisions, but ultimately, that information intertwines with our conscious or subconscious emotions, making the study of human behavior a complex task.

Traditional behavior research methods rely on self-reporting, for example, a researcher may interview a subject to ask why certain decisions were made. Physiological data – heart rate, perspiration, and eye movements – can unveil behavioral phenomena our conscious minds may deny, distort, or completely fail to register.

The application of this technology is virtually limitless, which is why we are excited to partner with nearly 100 researchers, professors and graduate students across the Texas A&M University System.

For more info, contact:

tamunews@tamu.edu

About the College:

The College of Agriculture and Life Sciences' 14 academic departments and nearly 100 degree programs offers high-impact learning, taking students far beyond the classroom to abundant research and outreach opportunities. Our students will find a clear focus on science, technology, engineering, and math (STEM) courses to prepare them for a career in a job market that is searching for qualified graduates.