Measuring Affect in the Wild

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Abstract. Our teams at MIT and at Affectiva have invented mobile sensors and software that can help sense autonomic stress and activity levels comfortably while you are on the go, e.g. the Affectiva Q™ Sensor for capturing sympathetic nervous system activation, or without distracting you while you are online, e.g. webcam-based software capturing heart rate variability and facial expressions. We are also developing new technologies that capture and respond to negative and positive thoughts, combining artificial intelligence and crowd-sourced online human computation to provide just-in-time emotional support through a mobile phone with texting. Our technologies are all opt-in, and are currently being used robustly for "outside the lab, mobile" studies where core emotional processes are involved in autism, PTSD, sleep disorders, eating disorders, substance abuse, epilepsy, stressful workplaces and learning environments, online customer experiences, and more. The new technologies enable collecting orders of magnitude more data than previous lab-based studies, containing many fascinating variations of "what people really do" especially when making expressions such as smiles. This talk will highlight some of the most interesting findings from recent work together with stories of personal adventures in emotion measurement out in the wild.

Keywords: Emotion measurement, ambulatory sensing, electrodermal activity, skin conductance, autonomic nervous system, physiology, facial expression analysis, cardiocam, Q™ Sensor, Affdex, positive psychology, mobile sensing.