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Measuring Emotions

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Whether emotions can be scientifically measured or not is still a controversial issue today. However, researchers have adopted the use of self-report or questionnaires as well as physiological tests in order to measure, though not exactly, the affective phenomenon of emotions usually through a person's feelings, the subjective aspect of emotions.

Most researchers measure emotions of people based on their affective display, that is, their emotional expressions. Affective display includes facial expressions, bodily postures and vocal expressions. To measure affective display, researchers generally use observation techniques and self-report via questionnaires. At present, they also utilize computer programs that are able to code expressive behaviour and "read" the emotion of an individual.

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Commercial Systems

There are several commercial systems that are used by researchers to measure and study emotions. One of them is called "FACS", a widely-utilized system that provides a taxonomy of human facial expressions.

Facial Action Coding System

Initially developed by psychologists Dr. Paul Ekman and Wallace Friesen, Facial Action Coding System or FACS is a model that analyzes facial expressions to measure emotions.

FACS encodes the movements of the facial muscles and changes in their patterns. As FACS encodes a facial expression that is anatomically possible, it can be used to determine the subject's basic emotion at the point of encoding. Thus, the contraction or relaxation of facial muscles, termed as "Action Units" or "AUs" by Ekman, is recognized by FACS and interpreted as facial expressions related to basic human emotions.

Trained FACS experts use the system to properly interpret the facial expressions of an individual. For instance, FACS can see through the difference between "Pan-Am smile" (an insincere and voluntary smile) and "Duchenne smile" (a sincere and voluntary smile). Pan-Am smile includes the contraction of only the facial muscle zygomatic major, while Duchenne smile involves the contraction of the zygomatic major plus the orbicularis oculi (inferior) muscle.

Other Commercial Systems

Aside from the widely-used FACS, other commercial systems have been developed to measure emotions with high accuracy rates. One of these is Affectiva, which includes a wireless biosensor that should be worn to detect skin conductance and measure emotional arousal. Another commercial system for measuring emotions is the nViso. Described by its maker as a cost-effective technology, nViso is an emotion measurement system that uses artificial technology and video analysis to analyze a person's emotional state.

Self-Report Methods

Researchers also make use of emotion evaluation tools that are often self-administered. Retrospective verbal self-report methods such as the PANAS and the Geneva Emotional Wheel are often utilized. On the other hand, non-verbal self report tools include the Sensual Evaluation Instrument, Emotion Slider and PrEmo.

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