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Sommario/riassunto	What can we learn from spontaneously occurring brain and other physiological signals about an individual's cognitive and affective state and how can we make use of this information? One line of research that is actively involved with this question is Passive Brain-Computer-Interfaces (BCI). To date most BCIs are aimed at assisting patients for whom brain signals could form an alternative output channel as opposed to more common human output channels, like speech and moving the hands. However, brain signals (possibly in combination with other physiological signals) also form an output channel above and beyond the more usual ones: they can potentially provide continuous, online information about an individual's cognitive and affective state without the need of conscious or effortful communication. The provided information could be used in a number of ways. Examples include monitoring cognitive workload through EEG and skin conductance for adaptive automation or using ERPs in response to

errors to correct for a behavioral response. While Passive BCIs make use of online (neuro)physiological responses and close the interaction cycle between a user and a computer system, (neuro)physiological responses can also be used in an offline fashion. Examples of this include detecting amygdala responses for neuromarketing, and measuring EEG and pupil dilation as indicators of mental effort for optimizing information systems. The described field of applied (neuro)physiology can strongly benefit from high quality scientific studies that control for confounding factors and use proper comparison conditions. Another area of relevance is ethics, ranging from dubious product claims, acceptance of the technology by the general public, privacy of users, to possible effects that these kinds of applications may have on society as a whole.