
Comparison of physiological characteristics during unconscious and conscious perception of emotional audio stimuli

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Abstract

A set of psychological studies proves that cognitive and affective reactions are more likely to be influenced by unconsciously than by consciously perceived stimuli (Merikle, 1998). Nevertheless the qualitative distinction between physiological responses during conscious and unconscious perception remains controversial. Current research investigates the dynamics of physiological parameters like electrocardiogram, skin galvanic response and breathing during presentation of emotional audio stimuli. As emotionally-provocative stimuli we used natural vocalizations of 3-month-old infants in positive, negative and neutral emotional state, presented either in ordinary (conscious) conditions or with extremely low intensity through pink noise (unconscious). To maintain subjects' unconscious perception their attention was shifted to special visual task appearing at the same time with acoustic signals. Both ways of presentation – first-order unconscious and second-order conscious stimuli - were applied to the one subject within one experiment with a brief inter-trial interval. A comparative analysis of physiological measures revealed the significant difference between results obtained in two conditions of audio stimuli presentation. The changes of physiological parameters to emotional vocalizations relative to neutral or resting state were more salient in the case of the unconscious perception. This data indicates that infant vocalizations presented in experiment under unconscious conditions had changed the level of subject's emotional tension stronger than conscious stimuli did.

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