

# Emotion Perception and Attention

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A significant way in which humans obtain emotional information is through facial expressions. Information about emotional expressions can be obtained by processing certain parts or configuration of parts. We have investigated memory for specific parts and the whole face with happy, sad and neutral faces. Emotional faces are better remembered but specific parts are important for specific emotions, most notably mouth for happy expression and eyes for sad expression. In addition, the spatial frequency content of the emotional face is also important for identifying the emotional expression. Low spatial frequencies are more important for identifying happy expression and high spatial frequencies are more important for identifying sad expression. In addition, there seems to be hemispheric asymmetries in identifying emotional expressions.

Recent studies have shown interactions between emotional and attentional processes. An important aspect of attention is our ability to control the scope (narrow or broad) of attention. Zooming in (focused) or out (distributed) has implications for the nature of visual information processed by our perceptual system and working memory related processes. We have investigated the reciprocal links between scope of attention and emotions in the context of a putative link between distributed attention (broad scope) and happy emotions as well as focused attention (narrow scope) and sad emotions. We have investigated the time course of visual attention with emotional faces using the attentional dwell time paradigm and have found an advantage for happy faces or neutral stimuli following happy faces at short SOAs. The results show that the time course of visual attention is dependent on emotional content of the stimuli. We have also used global-local stimuli and have shown that global processing facilitates memory for happy faces and local processing facilitates memory for sad faces. ERP results also show interaction between global-local processing and emotion identification. In addition, memory for distractor faces in an inattentive blindness task shows facilitation with happy faces and inhibition with sad faces under high load conditions. The results clearly indicate a bidirectional link between emotions and attention that is dependent on the scope of attention.

In general, we find an advantage for processing happy faces contrary to earlier studies indicating that negative emotional stimuli are prioritized and hold a general advantage.