

DIAGNOSTIC COLOURS OF EMOTIONS

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ABSTRACT

This thesis investigates the role of colour in the cognitive processing of emotional information. The research is guided by the effect of colour diagnosticity which has been shown previously to influence recognition performance of several types of objects as well as natural scenes. The research presented in Experiment 1 examined whether colour information is considered a diagnostic perceptual feature of seven emotional categories: happiness, sadness, anger, fear, disgust, surprise and neutral. Participants (N = 119), who were naïve to the specific purpose and expectations of the experiment, chose colour more than any other perceptual quality (e.g. shape and tactile information) as a feature that describes the seven emotional categories. The specific colour features given for the six basic emotions were consistently different from those given to the non-emotional neutral category. While emotional categories were often described by chromatic colour features (e.g. red, blue, orange) the neutral category was often ascribed achromatic colour features (e.g. white, grey, transparent) as the most symptomatic perceptual qualities for its description. The emotion 'anger' was unique in being the only emotion showing an agreement higher than 50% of the total given colour features for one particular colour - red. Confirming that colour is a diagnostic feature of emotions led to the examination of the effect of diagnostic colours of emotion on recognition memory for emotional words and faces: the effect, if any, of appropriate and inappropriate colours (matched with emotion) on the strength of memory for later recognition of faces and words (Experiments 2 & 3). The two experiments used retention intervals of 15 minutes and one week respectively and the colour-emotion associations were determined for each individual participant. Results showed that regardless of the subject's consistency level in associating colours with emotions, and compared with the individual *inappropriate* or *random* colours, individual *appropriate* colours of emotions significantly enhance recognition memory for six basic emotional faces and words. This difference between the individual *inappropriate* colours or *random* colours and the individual *appropriate* colours of emotions was not found to be significant for non-emotional neutral stimuli. Post hoc findings from both experiments further show that appropriate colours of emotion are associated more consistently than inappropriate colours of emotions. This suggests that appropriate colour-emotion associations are unique both in their strength of association and in the form of their representation. Experiment 4 therefore aimed to

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investigate whether appropriate colour-emotion associations also trigger an implicit automatic cognitive system that allows faster naming times for appropriate versus inappropriate colours of emotional word carriers. Results from the combined Emotional-Semantic Stroop task confirm the above hypothesis and therefore imply that colour plays a substantial role not only in our conceptual representations of objects but also in our conceptual representations of basic emotions. The resemblance of the present findings collectively to those found previously for objects and natural scenes suggests a common cognitive mechanism for the processing of emotional diagnostic colours and the processing of diagnostic colours of objects or natural scenes. Overall, this thesis provides the foundation for many future directions of research in the area of colour and emotion as well as a few possible immediate practical implications.

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All research presented complies with the Human Ethics guidelines as set by the
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