
Imaging first impressions: Distinct neural processing of verbal and nonverbal social information

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Abstract

First impressions profoundly influence our attitudes and behavior towards others. However, little is known about whether and to what degree the cognitive processes that underlie impression formation depend on the domain of the available information about the target person. To investigate the neural bases of the influence of verbal as compared to nonverbal information on interpersonal judgments, we identified brain regions where the BOLD signal parametrically increased with increasing strength of evaluation based on either short text vignettes or mimic and gestural behavior. While for verbal stimuli the increasing strength of subjective evaluation was associated with increased neural activation of precuneus and posterior cingulate cortex (PC/PCC), a similar effect was observed for nonverbal stimuli in the amygdala. These findings support the assumption that qualitatively different cognitive operations underlie person evaluation depending upon the stimulus domain: while the processing of nonverbal person information may be stronger associated with emotional processing as indexed by recruitment of the amygdala, verbal person information engaged the PC/PCC that has been related to social inferential processing.

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