

# Neural mechanisms of social utility by wearing makeup - fMRI study

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Cosmetic studies have drawn many attentions not only in beauty business but in social psychology field. Previous studies indicated that wearing makeup can increase an individual's quality of life and decision confidence. However, it remained unknown where in the brain represent these makeup effects, and how social information such as majority or minority impacts decision confidence. Here, we addressed this open question using fMRI. Students who wear makeup habitually participated in the study. The experiment was performed on two different days, once with and once without make up. In the fMRI scanner, participants engaged in commonly used binary decision tasks and provided a confidence rating regarding their decision. We compared the brain activation related to confidence both with/without make up and with/without social information. Behaviorally, decision accuracy in the discrimination tasks did not differ across conditions. However, decision confidence significantly increased both in the makeup condition and social majority condition compared to no-makeup condition and no-influence condition. In the brain, at the time of the confidence rating, we found that medial prefrontal cortex underpin the decision confidence and basal ganglia-prefrontal network enhance this confidence by being social majority and wearing makeup.