

Enhanced neural processing of chemosensory aggression-related signals in gay men

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Sexual orientation affects the perception of sex-related chemosignals. The current study examines whether sexual orientation also affects the processing of chemosensory aggression-related signals.

Pooled axillary sweat samples were presented to 44 (19 lesbian) women and 41 (18 gay) men via a constant-flow olfactometer. The samples were obtained from 34 (17 female) donors while they were repeatedly frustrated by a fictitious opponent and free to respond aggressively (aggression condition). Here, anger increased in all donors compared to a control condition (computer game evaluation). Ongoing EEG (61 electrodes) was recorded, and CSERP peaks related to early (P2), medium late (P3-1), and late (P3-2) stimulus processing were evaluated.

In general, same-sex oriented individuals show larger P2 amplitudes than heterosexual individuals ($p = .023$). Regarding the P3-1, this effect is especially evident in men ($p = .034$). In response to male aggression-related sweat specifically, gay compared to heterosexual men show both larger P2 ($p = .016$) and P3-1 amplitudes ($p = .039$). Overall, P3-2 amplitudes were larger in response to aggression-related compared to control sweat ($p = .014$).

Same-sex oriented individuals show pronounced pre-attentive (P2) and attentive (P3-1) processing of chemosensory aggression-related signals, in line with a heightened sensitivity for weakly salient social cues.

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