

# Is sun-induced frowning a possible cause of aggression?

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Research published in *Cognition & Emotion* by Marzoli et al examines how facial expression can trigger an emotional response. Marzoli et al set out to test this theory that mood can be governed by facial expression; to the extent that intensity of a person's smile bears a relationship to well-being, fulfilment and longevity. They conducted a study on involuntary sun-induced frowning and relationship to emotional state of the subject.

Participants consisted of 137 females aged 18-40 and 145 males aged 18-39. They were tested at the beach and were split between those wearing sunglasses and those not. Some walked with the sun behind and others with it in front. Participants were randomly chosen among passers-by and were not briefed as to the hypothesis. They completed questionnaires rating their personal feelings of anger and aggression on a Likert Scale. Those against the sun reported more aggressiveness than those wearing sunglasses or those with the sun behind.

In the questionnaire participants were given options to express anger or bitterness and in this study Marzoli et al report an overriding lean towards the former. Despite the majority of [participants](#) reported being unaffected by the sunlight, self-reported aggressiveness bore direct relation to the extent of their irritation from the sun in their eyes. Overall, this is congruent with the authors' view that anger is the expression which most mirrors sun-induced frowning, and adds ecological validity to the many laboratory findings that demonstrated a causal link between contraction of facial muscles and consistent [emotional response](#).

**More information:** "Sun-induced frowning fosters aggressive feelings." Daniele Marzoli, Mariagrazia Custodero, Alessandra Pagliara, Luca Tommasi

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