# References for features of sadness

Ito et al. reported a strong influence in the upper area of the face in recognizing anger, sadness, and surprise and a strong influence in the lower area of the face in recognizing fear and happiness.

* Itoh M., Yoshikawa S. Relative importance of upper and lower parts of the face in recognizing facial expressions of emotion. *Journal of Human Environmental Studies*. 2011, 9, 89–95. doi: 10.4189/shes.9.89 [[CrossRef](https://doi.org/10.4189%2Fshes.9.89" \t "_blank)] [[Google Scholar](https://scholar.google.com/scholar_lookup?journal=Journal+of+Human+Environmental+Studies&title=Relative+importance+of+upper+and+lower+parts+of+the+face+in+recognizing+facial+expressions+of+emotion&author=M.+Itoh&author=S+Yoshikawa&volume=9&publication_year=2011&pages=89-95&doi=10.4189/shes.9.89&)] [[Ref list](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10550163/#pone.0291735.ref006)]

Sadness is demonstrated by ‘inner brow raiser’ plus ‘brow lowerer’ together with ‘lip corner depresser’.

* Friesen, W. and Ekman, P. 1983. EMFACS-7: Emotional Facial Action Coding System. (1983) Unpublished manual, University of California, California.

Sadness depress the lip corners.

* Darwin C. (1998). The expression of the emotions in man and anmals. New York, NY: Oxford University Press.

The facial muscles used in expressions are difficult to activate in the absence of relevant emotions and difficult to inhibit in the presence of relevant emotions. These include two facial actions involved in the expression of sadness: the inner eyebrow raiser (medial frontalis) and the lip corner depressor (triangularis).

* Ekman P., Levenson R. W., Friesen W. V. (1985). Autonomic nervous system activity distinguishes between emotions. Science, 221, 1208–1210.