
Abstract

Darwin proposed that smiles with eye constriction (Duchenne smiles) index strong positive emotion in infants, while cry-faces with eye constriction index strong negative emotion. Research has supported Darwin’s proposal with respect to smiling, but there has been little parallel research on cry-faces (open-mouth expressions with lateral lip stretching). To investigate the possibility that eye constriction indexes the affective intensity of positive and negative emotions, we first conducted the Face-to-Face/Still-Face (FFSF) procedure at 6 months. In the FFSF, three minutes of naturalistic infant-parent play interaction (which elicits more smiles than cry-faces) are followed by two minutes in which the parent holds an unresponsive still-face (which elicits more cry-faces than smiles). Consistent with Darwin’s proposal, eye constriction was associated with stronger smiling and with stronger cry-faces. In addition, the proportion of smiles with eye constriction was higher during the positive-emotion eliciting play episode than during the still-face. In parallel, the proportion of cry-faces with eye constriction was higher during the negative-emotion eliciting still-face than during play. These results are consonant with the hypothesis that eye constriction indexes the affective intensity of both positive and negative facial configurations. A preponderance of eye constriction during cry-faces was observed in a second elicitor of intense negative emotion, vaccination injections, at both 6 and 12 months of age. The results support the existence of a Duchenne distress expression that parallels the more well-known Duchenne smile. This suggests that eye constriction—the Duchenne marker—has a systematic association with early facial expressions of intense negative and positive emotion.