

# The Faces of Positive Emotion

## Prototype Displays of Awe, Amusement, and Pride

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positive emotion**

### INTRODUCTION

Although several theorists posit the existence of multiple discrete positive emotion states,<sup>1–4</sup> much empirical research on the nature and consequences of emotion considers only one: happiness.<sup>5–8</sup> Studies of the facial display of emotion have documented universally recognized expressions of sadness, anger, fear, and other negative emotions, but have not differentiated among positive emotions.<sup>6</sup> The Duchenne smile, which includes contraction of the orbicularis oculi as well as the zygomaticus major, is generally considered the sole reliable expression of positive affect.

The goal of this study was to establish the features of facial and upper-body displays participants associate with the experience of distinct positive emotions. Although the full data set explores displays of 17 positive and negative emotions, only the data regarding awe, amusement, and pride displays are discussed here.

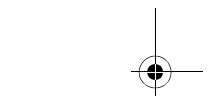
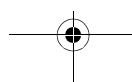
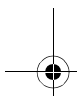
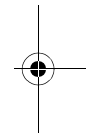
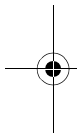
### METHODS

*Participants.* Forty male and 32 female undergraduates at a large West Coast university participated; 21 were Asian, 2, African-American, and 1, Latino.

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*Procedure.* Participants were seated at a table and presented with a series of index cards, each naming an emotion. For each emotion, participants were asked to recall and describe a time when they felt that emotion, and then to show how they would express that emotion to another person nonverbally. Participants were videotaped (upper body and face) throughout the session.

*Data Analysis.* A research assistant recorded the start time for each emotion pose, when a distinct pose could be identified. A FACS-certified coder then coded the ensuing display, using all FACS action units supplemented by 22 head, upper body, and respiratory actions. Frequencies of each action unit (AU) for each emotion were then calculated to establish “prototype” displays.

### *Hypotheses*

*Awe* is indicated by raised head and eyes, widened eyes, slightly raised inner eyebrows (AUs 1, 5, 53, 63).<sup>9</sup>

*Amusement* is indicated by drop-jaw Duchenne smile (AUs 6, 12, 26/27), or “play face.”<sup>10</sup>

*Pride* is indicated by Duchenne smile with compressed lips (AUs 6, 12, 24), back straight, shoulders back.<sup>9</sup>

## RESULTS AND DISCUSSION

Overall findings supported the three hypotheses regarding expected prototype displays of awe, amusement, and pride. Specifically:

(1) Displays of *awe* frequently included raised inner eyebrow (AU 1, 78%), widened eyes (AU 5, 61%), and an open, slightly drop-jawed mouth (AU 26 or 27, 80%). A slight forward jutting of the head (AU 57, 27%) and visible inhalation (27%) were also common elements of the posed displays. In earlier work we have defined awe as the emotion experienced during cognitive accommodation, or schema formation, which requires intense intake and processing of information.<sup>11</sup> Widened eyes and forward head movement may facilitate this process. The drop-jaw mouth and deep inhalation observed in some participants may promote reduction of physiological arousal, which can interfere with complex cognitive processing.<sup>12</sup> It is noticeable that few participants smiled in their pose (AU 12, only 23%; Duchenne, only 10%).

(2) Displays of *amusement* rarely included eyebrow movement, and typically consisted of a drop-jaw Duchenne smile as predicted (AU 6, 85%; AU 12, 95%; AU 26 or 27, 68%). Nearly half of posed displays also included a “head bounce,” or repeated up-and-down bobble, even when participants were not laughing (only 36% visibly laughed). A head tilt (AU 55 or 56, 34%) was also a common element. In earlier work we have defined amuse-

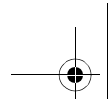
ment, or humor, as the emotion experienced during a cognitive shift in the contemplation of some target<sup>11</sup>—an experience that may be a mental form of play. If amusement is derived from our rough-and-tumble play instincts, the dropped jaw and neck display that accompanies the head tilt may indicate that one's intentions are not threatening, although one's behavior may include aggressive elements (as in the case of teasing).<sup>13</sup>

(3) Displays of *pride* typically included a mild Duchenne smile with compressed lips (AU 6, 70%; AU 12, 79%; AU 24, 60%), as well as a straightening of the back (55%) and pulling back of the shoulders to expose the chest (45%). A slight head lift was also frequently observed (AU 53, 38%). We have defined pride as the emotion felt when one succeeds at a socially valued endeavor, and the display of pride may have the function of increasing status within the group.<sup>11</sup> The latter three elements of the prototypical pride display all have the effect of making one appear literally larger—and by implication more powerful. The compressed lips may signify control or determination. The mildness of the smile is striking compared with the broad grin of amusement, and likely reflects the difference in the social messages of the two feelings. One striking, yet theoretically consistent, finding is that women in this sample were more likely than men to shrug during the display (Chi-squared = 3.36, d.f. = 1,  $P < 0.10$ ), thereby concealing or negating the upper-body display of pride.

In follow-up research, we plan to determine whether these and other prototypical positive emotion displays can be recognized reliably by judges, using both Western and non-Western samples.

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