Social monitoring: The psychophysics of facial communication

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Social monitoring ~ reading facial expressions of people viewing events we can’t see

e.g., dog barking behind you poses little threat if person facing you is smiling
e.g., does your partner on Skype like what they see?

Questions

How many IAP pictures lead to reliable spontaneous expressions?
Does reading spontaneous facial expressions improve with training?
Lie detection: Is there a picture-emotion congruency effect?
Does it vary between positive-negative expressions?

Phase 1 – Picture categorization
(24 participants, images moderate in arousal and valence)

Phase 2 – Emotion categorization of Spontaneous expressions of 3 picture viewers
(22 participants)

Phase 2 – Lie Detection in positive and negative expressions of 3 picture viewers
(32 participants)

Phase 3 – Spontaneous mimicry when viewing emotional video faces?
Hypothesis: Increase in spontaneous expressions over viewing source pictures

Results

More than 25% images led to "readable" spontaneous expressions

Spontaneous expression classification not influenced by feedback

Spontaneous expression accuracy greater for positive than negative expressions

Social monitoring

80 IAP Images

Proportion Correct

10 20 30 40 50 60 70 80 90 100

Rank ordered images

Spontaneous Expressor

Intentional Expressor

Lie detection accuracy greater for positive than negative expressions

Questions

e.g., dog barking behind you poses little threat if person facing you is smiling
e.g., does your partner on Skype like what they see?

Implications

Whole face/body responses can be used to measure emotion and person perception
The video-cam facing a study participant can be put to good use (with ethics approval)
Naïve participants can serve as - expressors / stimuli (IV) - responders (DV) - data coders

The Future

There are socially informative signals to study in facial expressions of untrained observers.

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