

Supplemental Appendix B

Emotion Expression Coding Manual

(from D.O.T.S. Emotion Coding System, Pamela M. Cole, Crystal N. Wiggins, Anna M. Radzioch, & Amanda M. Pearl)

The purpose of this coding system is to classify the emotion displays of children during lab-based procedures. The system is limited to 4 basic emotion families: happiness, anger, anxiety, and sadness. There are separate cues provided for each emotion codes. They are based on consensus across different research projects attempting to provide methods for reliably classifying discrete emotions (Ekman, Izard, Scherer). These discrete emotion families are based on research that indicates certain facial, vocalic, and to a lesser degree, gestural and postural, cues are consistently associated with particular emotion families.

Facial cues are based on facial activity, i.e., muscle movements that change the face's appearance. Vocal cues are based on the prosodic quality of utterances (i.e., the tone of voice) and NOT on the content of the child's utterance.

I. Emotion State

A. Emotion State

- Code Child's Emotion State on a second-by-second basis.
- If different cues do not suggest the same Emotion State, code the Emotion State with the most or the strongest cues.
- If child uses body (arms, hands) to convey ideas *without* emotion cues, code Neutral. If emotion cues are present *while* child uses body to convey ideas, code Emotion State that reflects the other emotion cues. A frequent example of this phenomenon is when children describe their party/school/field trip ideas with the use of hand/arm gestures; when this occurs, code neutral if there are no other emotion cues or code the Emotion State if there are additional emotion cues (e.g., facial expression, vocal intonation).

1. Happy

- = joyful, excited, enthused, delighted, gleeful, pleasantly surprised
- Vocal Cues:
 - Voice is light and lilting
 - Pitch often becomes higher and/or louder than previous vocalizations
 - "Oh, I know!"
 - "I think I got it!"
 - Includes laughing, giggling, humming in a singsong manner
- Facial Cues:
 - Smiling, slightly or broadly, in which corners of mouth turn up, cheek area rounds up as muscle is contracted
 - Smile may or may not be accompanied by crinkling around eyes, which often appears as brightness in eyes
 - Forehead is smooth, brows may raise as in happy surprise
- Posture/Gesture Cues:

- There is usually a little tension in the body (i.e., body is not slumped) but child's shoulders and chest appear relaxed
- Children may dance, jump up, raise their arms in glee, clap their hands with delight, cheer, dance, or high-five

2. Sad

- = disappointed, regretful, unhappy, hopeless, dejected
- Vocal Cues:
 - Voice is lowered from previous volume without intention to whisper or drops off at end of utterance
 - Sad sighs (elongated and dropping not huffing)
 - If child is whining, these sad vocal cues must still be present for some part of the whining to code as sadness
- Facial Cues:
 - Lip corners may begin to pull down, bottom lip may appear loose as in a pout (note: pouts may also contain cues of anger)
 - Eyes may droop
 - Brow may form an oblique shape (^)
- Posture/Gesture Cues:
 - Child's head may drop down and to the side
 - Shoulders and/or body may slump or be slack
 - Eye rubbing may be effort to catch or hide tears

3. Angry

- = frustrated, hostile, annoyed, irritated, mad, disgustingly surprised
- Vocal Cues:
 - Voice becomes harsh, conveys protest, irritation, frustration, hostility
 - Pitch is often louder and deeper
 - Can include a contemptuous tone of voice
 - Can include frustrated huffing sighs
 - If whining HAS protest quality, code Anger
- Facial Cues:
 - Brow may be furrowed
 - Eyes can be narrowed as in a "hard stare"
 - Jaw clenched or set
 - Mouth squared off if open, lips pressed or tightened if mouth closed
- Posture/Gesture Cues:
 - Arms akimbo (fists placed on each hip), finger wagging or jabbing
 - Gestures to indicate frustration such as slamming materials on table, stomping feet, hitting hand on table with force, hitting head with hand, forceful hand/arm gestures directed at or towards the child's partner (i.e., "stop" hand signal)

4. Worried/Anxious

- = nervous, tense, jittery, wary
- Vocal Cues:
 - Voice is strained and conveys stress, may sound shaky, tight
 - Tension in the vocal cords makes them constrict in a way that disrupts smoothness of speech

- May sound fearful, if whining has NO protesting quality, code as Anger or Sadness
 - Facial Cues:
 - Brow may be furrowed, deepened
 - Eyelids may be raised, eyes appear wider
 - Lips may retracted (think of saying the word “eek” if you see a snake or insect and that’s how the mouth retracts)
 - There may be lip-biting, darting glances
 - Posture/Gesture Cues:
 - Hand or foot may move in a tense, repeated, jittery, fidgeting fashion
 - Fussing or clicking task materials in a tense, repeated, jittery, fidgeting fashion
 - Upper body (neck, head, shoulders) may appear stiff, shoulders raised in unrelaxed manner
 - Raising/touching hands to face; exceptions include scratching face, picking nose, covering mouth to cough, etc.
 - If child has a habit of shaking hand or foot and continues this throughout the procedure, it is NOT codable as Anxiety
 - If child is swaying or rocking in a loose, relaxed manner, it is NOT codable as Anxiety.
5. Neutral
- No signs of vocal, facial, or postural cues of any emotion
 - Voice sounds “matter of fact”