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# The relative power of an emotion's facial expression, label, and behavioral consequence to evoke preschoolers' knowledge of its cause

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## Abstract

Lay people and scientists alike assume that, especially for young children, facial expressions are a strong cue to another's emotion. We report a study in which children ( $N = 120$ ; 3–4 years) described events that would cause basic emotions (surprise, fear, anger, disgust, sadness) presented as its facial expression, as its label, or as its behavioral consequence. For no emotion was the facial expression the strongest cue. Performance for fear and disgust was more accurate given its label or its behavioral consequence than given its facial expression; performance for anger was more accurate given the consequence. For 3s, behavioral consequences were the strongest cues to emotion; for 4s, labels were. © 2003 Elsevier Inc. All rights reserved.

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By figuring out that Dad is angry, Chris can learn more about anger: What causes it, what its consequences are, how it is expressed, how it is regulated, how it is labeled, and so on. Acquiring this information is important for various aspects of a child's social functioning, such as honing social skills, forming friendships, developing positive peer relations, and adjusting to school (Denham, 1998; Shields et al., 2001; Smith, 2001). Theorists have suggested that, even earlier in life, an understanding of emotion paves the way for infant-caregiver attachment (Bowlby, 1969, 1988; De Rosnay & Harris, 2002; Magai & McFadden, 1995), which has in turn been implicated in preschoolers' cognitive and linguistic development (Robinson & Acevedo, 2001). Acquisition of emotion knowledge is clearly important in

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the development of emotional intelligence (Barrett & Salovey, 2002). But, how does the process get started? How did Chris know that Dad was angry in the first place?

Two broad approaches to emotion suggest different answers. Those who view emotions as biologically given response modules have emphasized *facial expressions* as inherited signals that are easily or even innately recognized (Darwin, 1965; Izard, 1971, 1994). This line of thought, of major importance in the psychology of emotion, suggests that Dad's angry facial expression signaled his anger to Chris, who recognized that signal, and thereby began the process of learning about anger. Theoretical considerations of the evolutionary advantages of an emotion signaling system between infant and caregiver (Bowlby, 1969, 1988; Denham, 1998; Izard, 1971; Harris, 1989) have been taken to suggest that very young children recognize specific "basic" emotions from facial expressions. Harris (1989) proposed that an early understanding of facial expressions leads to an understanding of other aspects of emotions, which leads in turn to a theory of mind. Denham (1998) pointed to this early understanding of emotion via facial expressions as the "perceptual bedrock" (p. 61) for all later understanding of emotion.

Various sources of evidence can be cited as support for the theory that even very young children understand facial expressions. Infants distinguish different facial expressions and respond appropriately to them (Barrera & Maurer, 1981; Caron, Caron, & MacLean, 1988; Klinnert, Emde, Butterfield, & Campos, 1988; Maurer & Barrera, 1981; Moses, Baldwin, Rosicky, & Tidball, 2001; Serrano, Iglesias, & Loeches, 1992, 1995; Walker-Andrews & Lennon, 1991). There is also evidence that preschoolers can label facial expressions of the basic emotions (happiness, sadness, anger, fear) with above-chance accuracy (Denham & Couchoud, 1990; Harrigan, 1984; Markham & Adams, 1992; Russell & Widen, 2002a; Widen & Russell, 2003a). When preschoolers are presented with a conflicting facial expression and situation (e.g., someone receiving a gift but displaying a sad facial expression), and are asked to label the protagonist's emotion, they focus more on the facial expression than on the situation (Gnepp, 1983; Reichenbach & Masters, 1983; Wiggers & van Lieshout, 1985). Young preschoolers also label facial expressions more accurately than brief stories describing the same emotion's causes and consequences (Widen & Russell, 2003b).

From a very different perspective, those who think of emotions as social constructions have focused on *emotion labels* as central to a person's understanding of emotion (e.g., Harré, 1986). This line of thought suggests that someone's labeling Dad as *angry* might be what started Chris's process of forming a concept of anger and thus learning about it. Linguistic evidence on cultural differences in emotion concepts can be cited as evidence for this perspective (Harré, 1986; Lutz, 1988; Wierzbicka, 1992). For preschoolers, there is some evidence for what has been called a Label Superiority Effect. Children (preschool to second grade) heard stories about emotional events and selected the protagonist's emotion from an array of three facial expressions or from an array of three labels (Camras & Allison, 1985). Surprisingly, children were more accurate with labels than with facial expressions, especially for fear and disgust. When children (4–5 years) were presented with a facial expression or a label and then asked to describe the emotion's cause (Russell, 1990; Russell & Widen, 2002b), labels were again stronger cues than facial expressions overall, especially for fear and disgust. This advantage of labels over facial expressions also occurred for 2- to 7-year-olds for happiness, sadness, and anger in a sorting task (Russell & Widen, 2002a): Children sorted facial expressions more accurately given the emotion label than

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