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Cautions in the Study of Infant Emotional Displays

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Abstract

Camras and Shutter persuasively argue for the complexity of infant emotional displays and provide evidence in opposition to some of the central claims of Differential Emotions Theory (DET). I discuss two points of caution to the study of emotion that are implicitly raised by the target article and describe briefly directions for research in the field.

Keywords
communication, infant emotion, measurement

Camras and Shutter (2010) marshaled evidence demonstrating the complexity that exists between facial displays and other facets of emotion. In so doing, they provided compelling support against many of the tenets of Differential Emotions Theory (DET; Izard & Malatesta, 1987). Namely, they provided evidence against DET's assertions that infants' facial displays: (a) are isomorphic with adults' for the same emotion, (b) are identified as discrete emotions by adults, and (c) are lawfully related to emotion-relevant incentive events, as well as nonfacial emotional behaviors. Many in the field, especially those coming from Dynamic Systems or Functionalist perspectives, will be sympathetic to the evidence presented.

The article by Camras and Shutter affords an opportunity to consider two points of caution relating to science in general and to the study of emotion specifically. First, scientists generally adopt one of two strategies when studying a given phenomenon. One approach is characterized by a top-down orientation in which a priori ideas about a phenomenon are tested against empirical evidence. The other approach, championed by Bacon, is characterized by a bottom-up, inductivist, orientation in which empirical data are collected first and only then are summaries and inferences made from the data. Obviously, these approaches are two ends of a continuum, but when one examines the history of the natural sciences, one finds that the Baconian approach is often more successful when a field is short on empirical data and thin in conceptual clarity (Kagan, 2007).

How does this relate to the study of emotion? Despite researchers' best efforts, there are still major disagreements about the nature of emotion (what is emotion?) and its development (Scherer, 2005). Given the relatively nascent stage that emotion research is in, it is advisable to adopt an approach that is more inductive—Baconian—rather than a theory-laden approach (Kagan, 2007). Camras and Shutter's astute analysis of DET illustrates how observations that are infused with theory are not ideally suited to advance the field of affective science, at least at this time. Instead, Camras and Shutter briefly describe an alternative perspective on the nature of emotional displays in infancy. Rooted in Dynamic Systems theory, their approach is more Baconian (although not entirely) in orientation and recognizes the bottom-up generation of emotional displays that is consistent with the emotion system's context-specificity and its evident inter- and intra-individual variability.

The second caution that can be drawn from Camras and Shutter's contribution is related to the first, but focuses on the relation between theory and methodology. The Maximally Discriminative Facial Movement Coding System (MAX; Izard, 1979) is an anatomically-based coding system of infant facial displays that are thought to relate to emotion. This coding system provides facial movement formulas to code discrete infant emotional displays, which are based both on adult emotional displays and infant emotional displays, in a variety of contexts. According to Camras and Shutter, MAX assumes morphological congruency between adult and infant facial displays.

Of the studies cited in the target article that do support DET, most employ MAX in their methodology. If one employs a coding system that uses major assumptions from a theory, the methodology may be more likely to yield supporting results for that theory. Thus, it is important to differentiate between DET's claims about emotion from its often-used coding system, MAX. When a given study employing MAX fails to support a DET hypothesis, one must modify the theory or question the adequacy

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of the MAX-specified formulas. Perhaps a more advisable approach, and one endorsed by Camras and Shutter, is to employ a bottom-up coding system such as BabyFACS that is not infused with assumptions and theory. BabyFACS is a comprehensive system that codes for all facial muscle actions independent of their potential for being related to infant emotion, and it does not provide formulas for discrete negative emotions (Oster, 2005). Such a coding system is less theory-laden and provides a more objective means by which hypotheses may be tested.

Camras and Shutter's article provokes a number of important directions for research, some of which they mention. First, there is merit in investigating the relation between facial displays and inferred affective states, as it seems that the majority of research on emotional displays attempts to do. However, the field would be well served to examine the functions served by those emotional displays. Instead of focusing on facial displays as dependent variables, we would be well served to examine the *impact* that emotional displays have on others (Saarni, Campos, Camras, & Witherington, 2006). Second, the field would benefit if more researchers conducted studies that extended beyond facial displays of emotion (e.g., touch, posture, instrumental behaviors). Such studies may uncover how behavioral configurations coalesce around what the baby is striving to accomplish in the world. Finally, I want to underscore the importance of studying infant emotional displays from a truly *developmental* perspective. Camras and Shutter mention the need to study infants of a variety of ages, but it is also imperative to consider how other developmental phenomena—socialization, cognition, perception, and motor development—enter into the development of emotion. Few, if any, studies cited by Camras and Shutter considered some of these other domains of development in the quest to understand infant facial displays of emotion.

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