

Cambridge University Press

978-0-521-62992-8 - Emotional Development: The Organization of Emotional Life in the
Early Years

L. Alan Sroufe

Excerpt

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Part I

The nature of emotional development

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1 A developmental perspective on emotions

The premier developmental question is, of course, the nature of the transition from one developmental stage to another – the emergence of new forms. How does a system retain continuity and yet produce discontinuous manifestations?
Thelen (1989)

The subject of this book is human emotion, with a focus on the early years. The topics include the expression of specific emotions (such as joy, fear, and anger), as well as more complex emotional reactions. Also discussed is the place of emotion in the organization and stream of behavior, ties between emotion and other aspects of functioning such as cognition, and the management or regulation of emotion by individuals. While in the past each of these topics has been approached in a variety of ways, they have often been treated individually. Here they are approached in concert and from a particular perspective, that of development.

A developmental approach offers considerable leverage for understanding behavior. It yields a dynamic view, analogous to seeing films of an animal in motion as opposed to still photographs of the animal at rest. Knowing what led up to something, the network of changes in which it is nested, and its later manifestations provides a critical perspective for understanding. As we will discuss, the smile of the newborn is more meaningful because of what it portends, and the laughter of the 8-month-old is more understandable because of what has preceded it.

To someone considering the expression of joy or other aspects of emotional life in young humans, a developmental perspective means a number of things. For one, it is a particular way of looking at the origins and emergence of behavior, as well as how earlier behavior evolves to later behavior. This includes not only how an emotional reaction at one age differs from that at another age, but also how the later reaction is an outgrowth of the former. A simple interest in the age at which some reaction emerges based on a given criterion does not in itself define a developmental position (e.g., Werner & Kaplan, 1963). Beyond the simple chronology of events, there is an interest in *process* – that is, the

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nature of the unfolding of these events. In a developmental perspective there is concern with the convergence, coordination, and integration of various threads of behavior change over time, as well as across categories and even domains of behavior. A developmental approach involves looking at the way behavior is organized at a particular point in time and considering both the implications for subsequent behavioral organization and the history of prior organizations.

A developmental perspective also entails a particular way of looking at individual differences. Differences in age of manifesting some particular emotional reaction are only the starting point. One has a special interest in the various ways the normative process of emotional growth goes awry. Therefore, by determining the nature of core features of the normative process one guides the study of individual differences. For example, if a key feature of normative change in emotional expression lies in the tolerance or management of stimulation or arousal, individual differences in regulatory capacities would be examined.

Developmental questions

A unique set of questions emerges when one brings a developmental perspective to bear on the study of early emotion. One asks *when* affects emerge in some form, for example, but, in addition, *how* they emerge; that is, one is concerned with the nature of the unfolding process and the precursors and subsequent transformations of the emotional reaction in question. Moreover, one asks questions about the place of emotional expressions in the overall organization of behavior. How does this change with development? Like other researchers, a developmentalist would want to explain why emotional reactions occur, why they take the form they do, and why they are organized as they are with other behavior. But such questions are approached from an integrative perspective.

Nico Tinbergen (1951), the prominent ethologist, pointed out years ago that the question of why any animal exhibits a particular behavior actually entails four separate questions. These also apply to emotions in the young child and help to define a developmental perspective. The first question, the proximal cause question, is, Why does the animal exhibit the behavior at this particular moment? What caused the reaction now? The second question is, How did the animal grow to respond this way? What were the steps that led to this behavior over the course of the animal's life? Third, why does this *kind* of animal ever behave this way; that is, what is the function of the behavior for the animal (in terms of promoting adaptation or survival of this particular species)? Finally, what are the evolutionary origins of the behavior – that is, how did it evolve phylogenetically?

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While it is the second of these questions that is most specifically developmental, a complete developmental viewpoint embraces each of these four levels of explanation. For example, proximal causes of emotional expressions in humans are not static; rather, they too change with development. The same event will prompt one reaction at one age and a totally different reaction at another. Three-month-olds smile at strangers' faces, but later show neutral and then wary expressions. Likewise, the same emotion may be elicited by different events at different ages. Young infants smile when their kicking makes a mobile turn; toddlers smile after solving a problem. Such things are of as much interest to a developmentalist as the age at which a single, given reaction first occurred or the age at which an event first produced a reaction of some kind. Further, the same overt behavior may serve different functions in different contexts, and both functions and context sensitivity change with development. Thus, affective expressions in very young infants may elicit tender feelings or ministrations from adults, and later similar expressions may encourage or discourage interaction; for example, a newborn's sleep smile makes a caregiver feel warmly toward the infant, while later laughter encourages continuation of a game. Both expressions of positive emotion play a role in the infant's adaptation, but in different ways at different ages. Even the place of emotions in the organized functioning of the organism, in comparison with and contrast to somewhat analogous behaviors of other animals, becomes clarified in a developmental analysis (such as comparing threat and appeasement gestures in various species).

To illustrate the scope of a developmental approach, consider the following example:

A 12-month-old infant plays with a variety of toys on the floor of a laboratory playroom. Her mother sits a short distance away. As the child examines various objects in front of her, a large puzzle piece (a brightly colored orange carrot) briefly captures her attention. She then grasps the piece with widened eyes and in a smooth motion turns and extends it in the direction of her mother, smiling broadly and vocalizing. Her mother returns her smile and comments about the carrot.

Given the presence of the smile in this everyday scenario, all observers would agree that an emotional reaction has occurred. But what the smile means, *why* it occurred, could be given a number of interpretations. From a developmental perspective, full understanding of this seemingly simple affective reaction requires consideration of the several levels of explanation proposed by Tinbergen.

In explaining why the infant exhibited the observed positive affect at this moment, Tinbergen's proximal cause question, at least three things might be considered. First, it is clear that a somewhat advanced recognition process occurred and that there was some special meaning of the carrot piece for the infant.

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Explaining this meaning, of course, would entail a great deal, including cognitive and experiential (feelings) considerations, as well as the history of experience with such an object. Still, we can say that the affect was “caused” by the infant’s recognition of the carrot. Second, we also would note the place of the affective expression in the stream of behavior. We would consider the systematic deployment of attention and the strong orienting reaction that preceded the recognition process and affective expression. This would include the role of maturing physiological and neurophysiological changes. We could say that the smile was caused by this psychophysiological reaction (though we may want to define the total emotional reaction as including it). Finally, we would attend to the surrounding context that supports the affective behavior, most notably the presence of the caregiver. Without the caregiver as the object of sharing, it is doubtful that the affective reaction would have been of the same magnitude, and it may not have occurred at all. Thus, even the question of why the infant smiled in this instance involves considerable complexity.

In approaching the question of how the infant grew to show this behavior – that is, the developmental course of such an observed reaction – we would again be concerned with a number of issues. What does the 12-month-old’s reaction draw on and build on from the early months of life, yet how is it qualitatively different from what was present before? How is this reaction the same and different from the reaction of younger infants? In the first half year infants clearly show smiles of recognition. Is there then no development reflected in this 12-month-old’s behavior? Surely this cannot be. We would note changes in the timing (immediacy), magnitude, and specificity of the reaction, which Thompson (1990) refers to as the “dynamics” of emotion. When smiles of recognition first emerge in the early months of life, considerable inspection by the infant (and often gradually building excitement) precedes the smile. Here the reaction is immediate, on sight. This suggests a qualitative advance toward categorical, memory-based meaning, where concepts are affectively colored. All of this is supported by neurophysiological development. Further, we would note the place of the affective reaction in the stream of behavior and its organization with the other behaviors that co-occur and follow it. There are notable developmental changes in the control and modulation of affect, as well as in the way affect punctuates the behavioral stream. Such an integrated behavioral organization – observe, recognize, then with automaticity turn, smile, show, and vocalize *simultaneously* – would not be seen in the first half year; yet careful study would show that this complex reaction is based on an integration of building blocks that were present months before. What such an integrated pattern of behavior portends for subsequent development would also be of interest. The child’s behavior points toward the emergence of self-generated emotion and emotional self-regulation. Finally, as implied, we would be concerned with how

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this integrated affective response is coordinated with other developments in the cognitive and social domains, including the development of awareness, anticipation, intentionality, object concept, self–other discrimination, and the formation of specific attachments.

The issue of function, that is, how this reaction serves the adaptation and development of the infant, is also multifaceted. There is a widely discussed function with respect to the world outside of the infant; specifically, the communicative value of such behavior. Well-being, a desire for interaction, and so forth are communicated to the caregiver, who reads and responds to this “signal.” Beyond this, one must consider functions *for the infant*. In particular, what is the role of the affective, expressive behavior in promoting engagement of the stimulating and novel surround? A full understanding of function will include consideration of both the infant’s pleasure (which is experienced and communicated) and the process by which novelty-engendered arousal is managed. It is notable that the affective/motoric reaction terminated the brief period of behavioral stalling. Affective reactions commonly follow strong orienting reactions to novel events and co-occur or are followed by the freeing of further behavioral expression. The infant must be able to go forth, as well as encourage social partners to continue their part in novel stimulation. The capacity to engage novel aspects of the environment is a critical aspect of human adaptation, as is the capacity to elicit care. Emotion can support as well as inhibit such engagement; it is organizing as well as disorganizing (Campos, Campos, & Barrett, 1989; Schore, 1994; Thompson, 1990).

How human emotional expression compares with that of other animals (including unique aspects and functions of human emotion) would also shed light on the meaning of the infant’s smile. For example, the tail wagging of the dog on encountering a new person may have some of these same functions. Others have written about parallels in the facial communication gestures of nonhuman primates (Chevalier-Skolinkoff, 1973).

This brief glimpse of a developmental perspective will be elaborated in subsequent chapters and clarified continually through illustration. Indeed, one overarching goal of this book is to define and illustrate a developmental perspective by bringing it to bear on the complex topic of emotional development. In the remainder of this chapter the assumptions or principles guiding our study of emotional development will be presented, followed by a brief outline of the plan of the book.

Guiding assumptions

Four major propositions guide the examination of emotional development in this book. They may be briefly outlined as follows.

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That which comes to be emerges in a lawful way from that which was there before. Things are not simply always there, nor do they arise from nothing. Even behavior postulated to be innate, or “genetic,” develops. A satisfactory developmental explanation traces a process wherein initial conditions represent prototypes (i.e., essential, core features) for what will arise through developmental transformation. While a knowledge of initial conditions does not allow the specific prediction of an outcome, outcomes are always lawfully related to origins. Uncovering and describing the order in emotional development is the primary goal, as in any science (Gould, 1989; Schore, 1994; Waldrop, 1992; Werner & Kaplan, 1963).

Emotion is tied to development in other domains

Emotional development must be studied in concert with cognitive and social development. This is partly the proposition of holism – that the individual functions as a totality, and no part can be understood in isolation (Gottlieb, 1991; Magnusson, 1988; Werner & Kaplan, 1963). As Kuo (1967) has put it, “In any given response of the animal to its environment, internal or external, and in any given stage of development, the whole organism is involved” (p. 92). Without considering the growth of anticipation, awareness, and intentionality, and without considering the social matrix in which development unfolds, an understanding of emotional development would be extremely limited. Development is an integrated process, so that other domains of development have profound implications for emotional development, and studying emotional development sheds light on cognitive and social development (Fogel, 1982; Frijda, 1988; Schore, 1994; Thompson, 1990). The study of emotional development is necessarily integrative. As Gerald Edelman (1992) has put it, “Emotions may be considered the most complex of mental states or processes insofar as they mix with all other processes” (p. 176).

The major domains of emotional development (emergence of the affects and emotional regulation) are part of the same whole

In the ontogenesis and expression of the specific emotions or affects, there are clues for understanding the process of emotional regulation. In explaining why one affect rather than another is expressed and the changing basis for affect expression with age, core issues for understanding emotional regulation will be identified. Emergence of the affects is largely a normative issue, although individual differences in age changes are found. Emotional regulation, on the other

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hand, is often an arena for the study of individual differences, although there are normative changes in regulatory capacities. The fruitful study of individual differences is based on the consideration of normative processes, and the study of normative processes is informed by consideration of individual differences (Sroufe, 1991).

The adequacy of a developmental account depends on unification

The adequacy of a developmental account depends on the overall order and coherence it brings to the domain. It cannot be supported by isolated facts but is based on converging lines of evidence across both domains and developmental periods. The process as well as the fact of change must be brought to light, and parallels in change across domains should be seen. The adequacy of explanation is judged by how well precursors and subsequent transformations of a given behavior are understood, in terms of sequence and process. An adequate description should apply across subdomains – for example, be parallel for the major affects (e.g., joy, anger, fear). Further, the general explanation would be deemed more valid to the degree that the described process has implications for other major domains of development (i.e., cognition and social behavior) and is in harmony with the current understanding of development in those domains. One would also gain confidence in the validity of the description when major aspects within the domain of emotional development itself are brought into harmony – that is, when the explanation of the unfolding of the specific affects and the development of the capacity for emotional regulation is based on the same core process. Rather than being totally disparate aspects of study, the emergence of the affects and emotional regulation, normative change and developing individual differences, should be unified by an adequate developmental description.

The plan of the book

In the introductory chapters that follow, we will first consider theoretical issues that have been dominant in the field. This will provide a framework for discussing the thorny problems of definition that plague this area. The resolution suggested will rely on the idea of emotions as developmental constructs. This will be followed by further elaboration of what is meant by the nature and organization of development itself.

In the next major section we will explore the unfolding of the emotions – that is, the developmental process by which the specific affects such as joy and fear emerge. Each specific affect emerges from precursor processes present in the earliest months of life, according to a describable process involving trans-

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formation and qualitative change, yet with maintenance of essential core features. Moreover, striking parallels across the affects will be seen. At the same time, systematic changes in the conditions that produce affective reactions in the infant occur, with a transition from physical parameters of stimulation at first being effective toward a central role for the meaning of the event for the infant.

The importance and changing nature of the meaning of events for infants will bring us to a consideration of the reciprocal influence of affect and cognition. Emotions will be seen to arise through an active process by which infants find meaning in environmental events. Over the course of development, such meaning is increasingly based on both the infant's past experience and sensitivity to the context in which events occur. By the second half of the first year, not external events per se, but the infant's "evaluation" of events in context, are the determinants of affective arousal and expression.

These considerations lead to a broader discussion of emotional development, including the topics of emotional regulation and individual differences. An arousal regulation process, uncovered in the study of each affect system, is a key feature of individual differences. Developmental changes in arousal regulation are central in governing changes from precursor affects such as pleasure to more mature affects such as joy, and arousal modulation also underlies whether positive (e.g., joy) or negative (e.g., fear) emotional reactions occur in a particular circumstance. Whether an event, even in a particular circumstance, leads to joy or fear depends on processes within the infant. Therefore, individual differences with regard to meaning analysis and arousal modulation are deemed to be critical.

Social aspects of development, which are always critical, are discussed specifically in subsequent chapters. The infant is seen as embedded in social relationships, and the caregiving relationship is seen to be critical for two reasons. First, the security of context is a pivotal feature in governing emotional reactions, and the familiar caregiver is a prominent basis for infant security in novel circumstances. Moreover, in time, the infant comes specifically to utilize the caregiver through his or her own directed actions in order to achieve reassurance. Second, feats of emotional regulation can often first be accomplished in partnership with the caregiver, prior to being within the individual capabilities of the child. So important are these considerations that the evolving attachment relationship is conceptualized in terms of progressive changes in the dyadic regulation of emotion, with an increasingly active role for the infant at each phase.

In the final chapters of the book, the development of the affects and individual emotional regulation are projected forward into the toddler and preschool periods. A special topic is the growth of emotional self-control.

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2 Conceptual issues underlying the study of emotion

Without some version of a motivational principle, emotion makes little sense, in as much as what is important or unimportant to us determines what we define as harmful or beneficial, hence emotional.

Lazarus (1991)

The concern in this book is both with emotions as events and with emotional regulation as a core feature of normative and individual development. Theoretical treatments have rarely been this broad. Generally, they emphasize one aspect or the other. Therefore, it will be necessary to draw on insights from a variety of perspectives. There are excellent works on the emergence of the affects (e.g., Izard, 1978, 1990), the instigation of emotion (Frijda, 1988; Lazarus, 1991; Mandler, 1984), and emotional regulation (Fogel, 1993; Schore, 1994; Thompson, 1990).

According to Arnold (1960), a “balanced” theory of emotion differentiates emotional experience from other experience, accounts for the arousal of emotion and bodily change, and specifies the place of emotion in goal-directed action. A “complete” theory also distinguishes emotions from feelings and one emotion from the other, and it specifies neurophysiological mechanisms and the significance of emotion in personality integration. Thus, emotions and emotional life are multifaceted, entailing a consideration of physiological, cognitive, and social factors, and expressive as well as internal components (Schore, 1994). Major works have been written on each of these topics. A developmental point of view requires some acquaintance with each of these aspects, for none, in isolation, is adequate to the task at hand. We will touch on all of them in this chapter, and they will receive more expanded treatment in later chapters. First, a beginning definition of emotion itself will be presented.

Defining emotion

Any conceptualization of emotion must begin with the question of what an emotion is. Beyond that, any theoretical position must at least deal with some of the following: When do emotions occur? How do they occur? Why do they