

## The Moral Self of Infancy: Affective Core and Procedural Knowledge

ROBERT N. EMDE, ZEYNEP BIRINGEN, ROBERT B. CLYMAN, AND  
DAVID OPPENHEIM

*University of Colorado*

The early self has dual origins in (1) a set of biologically prepared motives and (2) interactions with emotionally available caregivers. We think of self as an organizing mental process and as a regulator of experience. Most emotionally engaging experiences in infancy are stored as procedural knowledge and are made use of in ways that are not accessible to consciousness; such experiences nonetheless contribute substantially to an "affective core" of a dynamic self. Recent research also leads us to the view that the early self is a moral one. Significant variations in the moral self occur in both developmental and social contexts, and these variations point to the need for further research. © 1991 Academic Press, Inc.

Our theory focuses on some aspects of early self-development that many may find surprising. By 3 years of age, under normative conditions, we consider the child's self to be a moral self. The child has internalized coherent rules about what to do and what not to do in a variety of situations and the child has a set of emotional signals to guide willful action according to what feels right or not. The early self has dual origins in (1) a set of motives that are strongly biologically prepared and (2) everyday interactions with caregivers who are emotionally available. We also consider that many emotionally engaging infant experiences are stored as procedural knowledge. As such, this knowledge is not accessible to consciousness under ordinary conditions. We are thus in the seemingly paradoxical position of having a theory of self wherein most of its functions and aspects are outside of awareness.

The first part of our essay will discuss our definitional perspectives on the separate concepts of self, morality, and consciousness. We will then outline our theory. We will conclude by discussing contexts, questions, and needed research.

Address correspondence and reprint requests to Dr. R. N. Emde, Department of Psychiatry, Box C268-69, University of Colorado, 4200 E. Ninth Ave., Denver, CO 80262

## DEFINITIONAL PERSPECTIVES: SELF, MORALITY, PROCEDURES, AND CONSCIOUSNESS

We think of self as an organizing mental process and as a regulator of experience (where this includes an individual's sense of continuity, confidence, competence, mastery, and, later in age, esteem). Regulation of this sort is based on knowledge of one's active, purposeful existence. It involves knowledge of what is one's own body vis-a-vis what is not one's own body; correspondingly, it involves knowledge of what is one's own activity vis-a-vis what is not one's activity.

A sense of coherence and of agency are the cardinal features of the self system along with a fundamental sense of control (i.e., ownership) of body and action. Paradoxically, the coherence and sense of agency are maintained across time in the midst of change and are often activated by the taking in of new events. Self is a regulator of stability in the midst of active exploration and perturbation—and thus can be thought about in terms of a regulatory “constant” for the dynamic equilibria of adaptation. Moreover, such a regulatory constant itself undergoes replenishment and change. At this abstract level, the reader will recognize the regulatory principle of adaptation both for general systems theory (Bertalanffy, 1968) and for Piaget's cognitive–developmental theory (i.e., the maintenance of equilibria between assimilation and accommodation; Piaget, 1952).

Our view of morality is a broad one. It includes the individual's internalized propensities about what to do, as well as what not to do. Again, regulation is a central idea. We deal with the development of morality in similar ways to that of Hoffman (1983), who sees moral internalization as the process whereby individuals increasingly come to regulate inevitable conflicts between personal needs and social obligations. Our view is also consistent with that of Rest (1983) who described such a process in terms of how individuals increasingly come to be governed by internal standards in the absence of external reinforcers.

An orientation to developmental processes enables us to consider the development of self and morality prior to the onset of a child's reflective self-awareness and moral judgment capacity. This orientation also enables us to consider the role of procedural knowledge and consciousness in early development.

The construct of procedural knowledge is central to our thinking about consciousness and self-development. Because it may be less familiar to the reader, and because our integrated view may be novel, we will elaborate what we mean by the construct and why we find it useful.

Procedural knowledge refers to the kind of information that underlies a skill but need not be represented in consciousness in order for an individual to manifest the skill (Cohen & Squire, 1980). A skilled psychother-

apist, for example, may make an intervention based on years of experience, even though much of decision making may occur outside of awareness. Declarative knowledge, on the other hand, refers to information that can be brought into conscious awareness through such activities as recognition or recall. Research has demonstrated a striking dissociation between procedural and declarative knowledge in neurologically impaired amnesic patients. Such individuals can learn a variety of skills as well as nonimpaired subjects, but they cannot recall ever developing the skills (Cohen, Eichenbaum, Deacedo, & Corkin, 1985; Squire & Cohen, 1984).

In our view, the early self develops procedurally (Clyman, *in press*). Young infants demonstrate procedural knowledge, for example, by the skillful regularities in their face-to-face turn-taking behavior with caregivers. Such procedural knowledge emerges from the interaction of biological preparedness and learning long before the acquisition of declarative knowledge, in fact, a year or more before the infant develops the capacity for reflective self-awareness (Lewis & Brooks-Gunn, 1979), recall (Piaget, 1952; Mandler, 1983), and the beginnings of expressive language as indicated by the two-word phase and personal pronouns (Bates, Bretherton, & Snyder, 1988). Philosophers have appreciated that rules which organize complex behavior need not be represented consciously for behavior to be rule-governed (see Ryle, 1949). Psychologists have also come to appreciate that intelligent systems can manifest rule-governed behavior without any explicit representation of the rule (Hinton, McClelland, & Rumelhart, 1986). This important insight comes from parallel distributed processing, a type of artificial intelligence research which models complex intelligent behavior using a network of neuron-like units (Rumelhart, McClelland, & the PDP Research Group, 1986; McClelland, Rumelhart, & the PDP Research Group, 1986). In relevant computer models, the rule governing behavior is not represented explicitly, but emerges from interaction of the units. It is reasonable to speculate that infants' organized, coherent, rule-governed behavior, in a similar fashion, may not always be based on the acquisition and representation of explicit rules. Rather, such behavior may be acquired piecemeal through day-to-day interactions with caregivers. It may be represented procedurally and show substantial organization despite the absence of explicitly represented rules.

Integrating this perspective with previous psychoanalytic thinking about consciousness adds another mode to the three modes previously conceptualized. The first mode, in our view, is nonconscious and based on procedural knowledge. The next three (heretofore the only ones encompassed by psychoanalysis) are all subtypes of declarative knowledge. Declarative knowledge can be conscious, preconscious (i.e., readily accessible and in working memory), or defensively excluded (i.e., including repressed memories and isolated affects). Although the young child will

eventually develop all four modes of processing, it is our view that procedural knowledge organizes the self in infancy to a large extent and remains influential throughout the life span.

What we have conceptualized as the prerepresentational affective core of early self-development (Emde, 1983) is an example of knowledge that is organized procedurally. The expression of emotion in face or voice, as well as the reception of emotional signals from others, reflects the operation of procedures. As we will review, the regularity with which we can make sense of our own emotions, as well as the emotions of important others within ongoing relationships, provides a background of coherence for self-regulation. This regularity reflects the operation of our emotional procedures (Clyman, in press), and, as is typical of procedural functioning, we are only aware of the outcome of the procedure and not of the processing itself. Accordingly, the young infant in a playroom who monitors her parents in order to detect indications of emotional availability or unavailability (Sorce & Emde, 1982) does so, we maintain, through automatic, nonconscious procedures. Social referencing is based upon procedural knowledge about the consistency of emotions in self and others, even though the infant (or adult) need not think about that consistency in order to carry out social referencing with others.

Similarly, early moral development is based on knowledge that is organized procedurally. Infants (like adults) come to act in accordance with a variety of moral rules about what to do in various contexts but need not explicitly recall these rules in order to follow them.

There are some caveats, however, which deserve mention. The first concerns limitations in the construct of procedural knowledge. While the construct of procedure refers, for some, to the information underlying coordinated action, for others it reflects more complex cognitive processing (Cohen et al., 1985) which is the view we adopt here. Additionally, considerable controversy remains as to how best to characterize the different forms of memory (see Richardson et al., 1988, for a review). Further empirical work is needed to clarify these issues with regard to early self-development.

Another caveat concerns the limitations of metaphors. It is in this area that we believe thinking about procedural knowledge helps us avoid unwarranted assumptions. We see little to recommend in the heretofore popular metaphor of the young child's having to acquire a "concept" or a "theory" of self, or in the related metaphor of "child-as-scientist," somehow making hypotheses and accumulating postulates in hierarchical order. Self-development according to the acquisition of procedural knowledge does not require such complex assumptions and links to current research in the cognitive sciences. Still, procedural knowledge as a

construct is not precise and we anticipate that its metaphorical roots will also have limitations.

#### THE THEORY: BASIC MOTIVES AND THE CONSOLIDATION OF AN AFFECTIVE CORE DURING EARLY CAREGIVING

Our theory proposes a set of basic motives that are suggested by recent interdisciplinary research (Emde, 1988). These are inborn tendencies, built into our species by evolution and present in earliest infancy. They are necessary for development and persist throughout life.

*Activity*, the first basic motive, is presupposed by all contemporary theories of development, although it is usually not made explicit (Piaget, 1952; Bertalanffy, 1968). It includes formulations about basic tendencies for exploration, intrinsic motivation, and mastery (Harlow, 1953; Berlyne, 1960; Hunt, 1965; Deci, 1975; Izard, 1977; Hendrick, 1939; White, 1963; Morgan & Harmon, 1984) and it also includes more recent research formulations about inborn developmental agendas and expectancies (Haith, 1980, 1985).

*Self-regulation*, a second basic motive, refers to the fact that there is an inborn propensity for regulation of behavior as well as physiology. Such regulation includes state cycles of sleep and wakefulness and cycles of infant attentiveness. It also includes the regulation of vital developmental functions that are goal-oriented. Species-important developmental goals such as self-awareness and representational intelligence are to a remarkable extent "built-in" with respect to our genome. As Bertalanffy (1968) pointed out, there are multiple ways of reaching developmental goals. Thus children who are congenitally blind (Fraiberg, 1977), who are congenitally deaf (Freedman, Cannady, & Robinson, 1971), who are born without limbs (Decarie, 1969), or who have cerebral palsy (Sameroff, 1981) all go through infancy with different sensorimotor experiences but typically develop the developmental goals of self-awareness and representational intelligence. Accordingly, with respect to important functions, there is a strong tendency to get back on the developmental pathway after deficit, deviance, or perturbation (Waddington, 1962; Sameroff & Chandler, 1976; Clarke & Clarke, 1976).

*Social fittedness*, our third basic motive, results from research that has shown that infants come into the world preadapted for initiating, maintaining, and terminating human interactions. The infant has a propensity for participating in eye-to-eye contact, for showing prolonged alert attentiveness to the stimulus features contained in the human voice and face, and for integrative capacities that must be considered remarkable preadaptations for the dynamic complexities of human interaction (for example, processing sequential information, cross-modal perception, early

forms of social imitation and orienting; Papousek, 1981; Stern, 1985; Meltzoff, 1985). Social fittedness is impressive not only from the infant's side but also from the parent's side. Papousek and Papousek (1979) described a variety of automatic parenting behaviors as "intuitive" because they are species-wide, are nonconscious, and do not seem to result from individual experience. They include the way visual contact is supported to match the newborn's limited accommodation abilities, the way adult gestures are paced for optimal infant learning, and the way adults have an automatic tendency for "baby talk" (Papousek & Papousek, 1981; Snow, 1972). Research on behavioral synchrony between caregivers and infants also illustrates this point (Stern, 1977; Brazelton & Als, 1979; Tronick & Gianino, 1986; Condon & Sander, 1974; Haith, 1977; Meltzoff, 1985) as does joint visual referencing that has been taken to indicate an inborn potential for a "shared visual reality" (Scaife & Bruner, 1975; Butterworth & Jarrett, 1980).

*Affective monitoring* is our fourth basic motive. The infant has a propensity from the start to monitor experience according to what is pleasurable and unpleasurable. From the mother's point of view, infant affective expressions guide caregiving. A newborn's cry communicates a peremptory message of "come, change something for me;" later, a smile communicates a less urgent message of "keep it up—I like it." From the infant's point of view, emotional communication also becomes increasingly prominent. Sometime during the middle of the first year the infant engages in social referencing, searching out emotional expressions of significant others during situations of uncertainty in order to guide behavior.

A fifth basic motive is that of "*cognitive assimilation*." From the start, the infant explores the environment, seeking what is new in order to make it familiar. Cognitive assimilation overlaps with the first motive we have designated as activity, but we believe it deserves separate emphasis so that we can label a more directed tendency to "get it right" about the environment. This motive comes directly from the theorizing of Piaget (1952) who referred to cognitive assimilation as "a basic fact of life." Recent research has shown the power of this fundamental organizing activity. From the vantage point of behavioral measurement, in fact, it appears to be the most stable characteristic of an individual from infancy through early childhood (Bornstein & Sigman, 1986).

The basic motives listed above are designated for theoretical convenience. They do not operate separately, nor do they operate without a context. They are labeled "basic" because they are inborn and operate throughout life. They are general rather than specific motivational influences and they usually operate in the background. Perhaps they are better regarded as fundamental aspects of developmental processes—aspects that clinicians come to rely upon in their patients for providing a "devel-

opmental thrust'' (Fraiberg, 1980; Emde, 1990a, 1990b). But the context needed for the operation of basic motives is crucial. The infant/caregiver relationship experience provides the context in which the basic motives become activated, acquire meaning, and develop into more complex motivational structures. The context of the relationship experience is also where we see the integration of the affective core of self and a set of early moral structures.

The idea of continuity coming from an affective core stems from our newer organizational perspectives about affects (Sroufe, 1979; Emde, 1980). Affects are seen as active, ongoing, and adaptive features of our lives that serve both motivational and evaluative functions. In addition to mobilizing action, affects at any given time allow us to monitor ourselves, our states of being, and our engagement with the world. They also allow us to monitor others and their needs, intentions, and states of well-being. The theory of affective self adds another dimension to these adaptive functions. The theory proposes that because its basic organization is biological, and because its vital relations are unchanging, a patterned affective core of responsiveness give us a sense of consistency, allowing us to know we are the same despite the many ways we change. Our affective core also gives us a sense of consistency about getting in touch with others who are human. It can therefore be regarded as a core for intersubjectivity as well as self. Finally, because our affective core gives meaning and consistency to what we feel deeply about as individuals, it comes to give us a sense of the uniqueness of our experience.

Our theory of an affective core for self is supported by evidence from several sources. In addition to clinical practice and everyday experience, wherein we use our emotions to get in touch with another's humanity and then appreciate what is of core concern, there are other sets of evidence from research. There is evidence for a similar dimensional organization of emotional expressions in infants, children, and adults, as a number of research programs using a variety of scaling techniques have documented (see reviews in Emde, 1980; Russell & Ridgeway, 1983). There is also evidence across cultures for the species-wide presence of discrete units of human emotional communication as Darwin (1872) long ago had proposed. Thus happiness, surprise, anger, sadness, fear, disgust, and, to some extent, interest have patterns of facial expressions that exhibit a universality for both recognition and expression (Ekman, Freisen, & Ellsworth, 1972; Izard, 1971). Another line of evidence concerns the presence of discrete patterns of emotional expression in infancy. Research has now clearly shown that infant patterns of facial expression fit the theoretical patterns specified by emotion research in adults (for review, see Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983). There is also evidence for consistency in vocalic expression of basic emotions, both in

adults (Johnson, Emde, Scherer, & Klinnert, 1986; Scherer, 1979) and in children. Finally, the importance of emotional availability and emotional communication is increasingly recognized in infancy studies, thus providing further evidence for continuity in our affective life (Bowlby, 1973; Campos et al., 1983; Emde, 1980; Feinman & Lewis, 1981; Mahler, Pine, & Bergman, 1975; Sorce & Emde, 1981).

This leads to some further thoughts about the social context for an individual's affective core. While we theorize that from earliest infancy emotions provide a sense of coherence for self-regulatory experience, this can only occur if there is a "self-regulating other" (Stern, 1985; Sander, 1985). In other words, it is the social context that enables the infant's basic emotions to be consolidated into a meaningful affective core. The coherence of experience results from an emotionally available caregiver who is continually responsive to a particular active, self-regulating, socially interactive, emotional infant—an infant who is "getting it right" in the midst of a particular developmental world that is socially expanding. It can be said that the infant develops particular emotional procedures for monitoring the caregiver's emotional availability (Clyman, *in press*). After the middle of the first year, emotional communication with others becomes more complex. By 7 months, the infant engages in social referencing, seeking out emotional signals of others in order to guide behavior when there is uncertainty (Feinman & Lewis, 1983; Klinnert, Campos, Sorce, Emde, & Svejda, 1983). It is through social referencing that a host of emotional procedures and guidelines for action become internalized with respect to particular social contexts. Still later, as we will discuss in the next section, the infant shows emotional connectedness with others by virtue of a variety of moral emotions.

Evidence suggests that the affective core of self is subject to different cultural expressions. Our presumption is that this is based on different early relationship experiences with correspondingly different learned procedures and schemes for experiencing and expressing particular emotions (see Kleinman, 1986; Schweder, Mahapatra, & Miller, 1987; Markus & Kitayama, 1990). Taken together, we believe that cross-cultural research indicates that universal Darwinian emotions can be accessed but are given varying amounts of salience in different cultures; moreover, such emotions become more complex in the course of development and are contextualized in different ways. From the perspective of a dimensional approach to emotional organization, it is noteworthy that most variation occurs not with respect to the primary emotional dimensions of hedonic tone and arousal, but with respect to a third dimension that seems to be local (for example, with particular emotional forms of social interdependence in Japan; Markus & Kitayama, 1990). Perhaps it is worth reminding ourselves that although infant emotions may start with a biological core of



simple patterns, more complex meanings become increasingly important and these depend upon culture as mediated by shared experience with significant others.

Before we leave our discussion of the affective core and caregiving, we would like to point out that our contextual model has a strong background in psychoanalytic perspectives. Clinicians—theorists have referred to early caregiving interactions in terms of affective “dialogues” (Spitz, 1965), “good enough mothering” (Winnicott, 1965), and the parent’s sensitivity and attunement to the infant’s emotional cues and needs (Bowlby, 1973; Mahler et al., 1975; Stern, 1985; Osofsky & Eberhart-Wright, 1988; Brazelton & Cramer, 1990). The caregiver’s regulatory role in structuring the continuity of early experience has also been alluded to in concepts of the parent’s acting as a “container” (Bion, 1962) or as a “holding environment” (Winnicott, 1965). Perhaps best known are the concepts of Mahler and her colleagues concerning the toddler’s need for “emotional refueling” with the caregiver in the midst of exploratory activities (Mahler et al., 1975). The school of psychoanalysis that has come to be labeled “self-psychology” has been more explicit about these matters. The caregiver’s available responsiveness for the child’s affective states, or “mirroring” as it has been called, is considered necessary in order for coherence to develop; otherwise, self-fragmentation and other forms of narcissistic pathology may be the outcomes (Kohut, 1971, 1977; Stolow, Brandchaft, & Atwood, 1987).

*An early moral self.* We now come to our view of early moral development. We are reminded from our observations that all systems of morality have “do’s” along side of “don’ts.” Soon after walking, the toddler becomes willful and acquires the use of negation; correspondingly, parents become preoccupied with issues of discipline, and of don’ts, in addition to nurturing (Maccoby & Martin, 1983). But the child’s internalization of do’s begins earlier and continues as a core aspect of what we believe to be an early moral self. We will portray how experience becomes internalized in such a way that the child gains extensive procedural knowledge concerning reciprocity, as well as prototypic rules for what should be and what should not be.

*Internalizing the do’s.* The infant learns a great variety of “rules” as a shared aspect of the caregiving experience, before there is conflict and as a positive aspect of the early moral self. We can think of these internalized rules as having a dual origin—both in inborn propensity and in expectable caregiver relationship experiences. Rules involving “reciprocity,” for example, can be thought of as developing quite naturally from the basic motive of *social fittedness*. Early face-to-face turn-taking interactions with mother provide well-studied examples of internalized rules about reciprocity (Stern, 1977; Tronick, 1980; Brazelton & Als,

1979; Trevarthen, 1979). Research has clearly shown that rules about how to communicate—about how to engage, maintain, and terminate social interaction—are operative well before language (Bruner, 1982; Kaye, 1982). They are internalized as a result of caregiving experiences (often highly pleasurable experiences in games) and—important for the theme of this essay—they come to form early motives and coherent procedures for social turn-taking. Is this a basic form of morality? We think it is. All systems of morality have a sense of reciprocity at their center with a version of the Golden Rule: “Do unto others as you would have them do unto you.”

A tendency for turn-taking in communication and for social cooperation in this sense may be on a developmental path that eventually leads to another positive feature of early morality. This concerns *empathy*. Research has shown that toward the end of the child's second year, infants come to feel distress at another's expressed discomfort and they show tendencies of wanting to help or comfort (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983; Zahn-Waxler & Radke-Yarrow, 1982). The emergence of empathy seems to have a strong maturational basis and some have suggested that it may have evolved in our biology as a natural counter-tendency to aggression against others (Kagan, 1984; Hoffmann, 1977). It also seems likely that empathy and its corresponding tendency for helping are influenced by the quality of similar experiences with caregivers. We are reminded that the infant's learning about rules of social interaction involves repeated experiences of “*affect attunement*” as Stern (1985) has elucidated, and that caregiving interactions increasingly involve shared intentions and assumptions about others' mental states (Trevarthen, 1979; Kaye, 1982). Based on consistent caregiving interactions, what has been called “*intersubjectivity*” depends not only on expectations that are cognitively coherent, but also on procedural memories that we believe are constituent in a consolidated affective core of self.

Toward the end of the second year, still another feature of basic morality becomes differentiated. The tendency for cognitive assimilation, for “getting it right,” shows itself in a new affective way. The child sometimes shows *anxiety when internal standards are violated*. When faced with a familiar object that is flawed or dirty, the child may evidence distress along with an urge to correct what is perceived as a discrepancy from what was expected (Kagan, 1981; Dunn, 1988). Is this a form of morality? Again, we think it is. Kagan has linked this developmental milestone to the onset of reflective self-awareness and has highlighted that all systems of morality require internalized standards—along with a sense of uneasiness when prototypic standards are violated. It is not small matter that the child's early moral self has emotional procedures that guide such a process by the end of the second year.

Thus, early morality is, in our view, surprisingly positive. But this is so on one condition: *that adequate support is provided from consistent caregiving*. Our theory proposes that the fundamental modes of development become differentiated so that a basic positive morality occurs through internalizing the do's of everyday interactions. This morality includes elements of a sense of reciprocity, an internalized sense of everyday rules (e.g., about what to do, when, and what belongs where), empathy, and some internalized standards. Affect plays a major role as pleasure in "getting it right" and is confirmed by the caregiver's expression of pride for the child's accomplishments; similarly, shame becomes internalized and develops as a moral regulator during the second year. The emotional availability of the caregiver is central.

*Internalizing the don'ts: Social referencing and negotiation.* The child's internalizing of don'ts also occurs through repeated interactions with caregivers. Our observations highlight processes of social referencing and negotiation that mediate procedures for self-regulation.

Social referencing becomes increasingly important in the second year of life. When an infant encounters a situation of uncertainty, there is a tendency to seek out emotional information from a significant other in order to resolve the uncertainty and regulate one's behavior. Thus, the infant who sees a toy robot enter the room will look to mother. If mother smiles or expresses interest, the infant is encouraged to explore and touch the robot; if mother expresses fear or anger, the infant will avoid the robot. A similar searching for emotional signals and the use of these signals occurs during prohibitions. The toddler repeatedly looks back and forth to mother or father and makes use of perceived emotional expressions (in face and voice), testing the authority and clarity of the prohibition messages. Repeated looking occurs either after or before a prohibited act, with the child seeking resolution of uncertainty or confirmation for a decision about acting in the emotional signal of the parent. Our research observations suggested developmental steps in the early internalization of prohibitions, steps which occur under normatively the watchful eyes of the caregiver (Emde, Johnson, & Easterbrooks, 1988). Longitudinal observations in home and playroom revealed that 24-month-olds presented evidence of having internalized rules for don'ts, as well as for do's, so long as a parent was physically present and could be referenced.

Negotiation is another process that develops in the context of caregiving and leads to internalized procedures for moral (and self-) regulation. In our longitudinal study of prohibitions mentioned above, a toddler's movement toward a prohibited object rarely began with a clear emotional message of prohibition from the parent. Typically, parents offered initial emotional messages that expressed a mixture of interest, curiosity, and pleasure, along with mild prohibitions; these messages were then

“tested” by an infant who continued moving toward the tempting object. It was only toward the end of a sequence of communications, when the toddler was about to touch a tape recorder, for example, that a parent might decide to be clear and unequivocal, with a stern, glaring, message of “No, don’t touch!” Toddlers experienced many variations of prohibition sequences in response to their initiations and they often charmed their parents with positive message exchanges in the course of “getting their way” or “resisting temptation.” What seemed to be internalized in these kinds of experiences were not prohibitions in any simple way but, instead, strategies of negotiation in the midst of emotional communication and the consequences of these strategies. Negotiation, even though it involves the don’ts of early moral development, is a positive principle of morality, having its roots in repeated attempts to “get it right” in social interactions. Shared meaning is negotiated in the course of back and forth exchanges with a significant other (including during social referencing) and we could say that the internalization of early relationship experiences is largely the internalization of negotiated interactions. We could also say that what the young child internalizes are strategies of action with particular others in varying contexts. This is a different way of thinking from traditional academic psychology and psychoanalysis. More than we had ever imagined, development is creative; it not only involves processes of construction and coconstruction, it also involves the internalization of dynamic procedures of negotiation.

*The narrative self and an “executive we.”* We are centering our essay on the first 2 years. But we wish to comment briefly on the child at the end of the third year when there is a narrative self, and the child can engage in discourse with another. Rules concerning what feels right and other affective themes cannot only be enacted in play (a manifestation of procedural knowledge) but can be talked about (a manifestation of declarative knowledge). As we have described elsewhere, most advantaged middle class children observed in our setting at 36 months were found to show play narratives that included internalized rules and a sense of reciprocity and of empathy. These were instigated by language (i.e., standard story beginnings by a tester) and the children could talk about them. Particularly striking were the results from a standardized story beginning that involved a “moral dilemma.” Children in our sample understood and struggled with a play dilemma that involved wanting to get a Band-Aid for a hurt child while at the same time having been prohibited from going to the bathroom shelf; moreover, many children found a way to have prosocial outcomes (Buchsbaum & Emde, 1990; Emde & Buchsbaum, 1990). These results are in line with recent research concerning cognitive capacities in young preschoolers using socially supportive contexts (Wellman, Cross, & Bartsch, 1986; Wooley & Wellman, 1990). They also yield an

important insight. The child at this age, if certain interactive procedures are activated and supported, can work with simple forms of moral dilemmas and some can even discuss alternative outcomes, illustrating aspects of declarative knowledge.

Another insight came when we conducted an experiment of challenge to a maternal prohibition when mother is not present. Under these conditions, a number of children told us something quite remarkable. They resisted the temptation, telling us, in effect, "Didn't you hear my Mommy? I better not play with those toys" (i.e., the ones they were not supposed to touch) . . . "We better not either." Our insight? These children seemed to have developed an executive sense of "we," of a significant other being with them, and this gave them an increased sense of power and control. Internalized rules, without the parent being physically present, seemed to carry a sense of the "other" and, to the extent they were activated in a new social context, they carried with them an autonomous sense of the "we." A historical basis for this line of thinking in Western as well as Eastern psychology has been discussed elsewhere (Emde, 1988). But this insight about what we refer to as an "executive we" supplementing an "executive I" raises new questions about the affective-moral self. What are the conditions under which this sense of empowerment and "getting it right" is activated procedurally? Or is it? Is the "executive we" only declarative? When does an individual come to have "I-thou" dialogues and when does an individual come to have "I-we" dialogues?

#### CONCLUSION: EXTENDING THE CONTEXTS FOR RESEARCH

We have portrayed how the infant gains procedural knowledge about what feels right to do under what conditions. Accordingly, the infant gains knowledge schemes for action that are both evaluative and directive as strategies are internalized during early interactions. But it is important to realize that contexts for early experience vary. Contexts requiring research are both developmental and social.

*Developmental contexts* for interactions include times of transformation that we have conceptualized as biobehavioral shifts; these have been described at 2 months, 7-9 months, 12-13 months, and 18-21 months (Emde, Gaensbauer, & Harmon, 1976; Kagan, 1981; McCall, 1979). Following Spitz (1959), our theory proposes that new, more complex, emotional signals develop at times of transformation. Affective meaning is enhanced both from the child's point of view and from the point of view of intersubjectivity (i.e., the shared meaning between the child and a significant other). Especially relevant for this essay is the fact that a set of moral emotions develop in the second year and are in dire need of research. The moral emotions are more complex than are the discrete emo-

tions we discussed as part of the infant's early "affective core." These emotions (such as positive affect sharing, pride, shame, "hurt feelings," and forerunners of guilt) do not have any simple correspondence to a specifiable patterning in face, voice, or posture. They are based on relationships, on a past history of experience with particular individuals in particular contexts, and on some sense of struggle, dilemma, or conflict. Most importantly, they are anticipatory, forecasting and signaling in some procedural way the consequences of an intended outcome.

*Social contexts* for infant interactions vary considerably. They include fathers as caregivers and, increasingly, a variety of others as caregivers from an early age. In addition, relationships with siblings and peers introduce important variation (Dunn & Kendrick, 1982). What are the consequences of variations in relationships for the internalization of procedures having to do with early self-development? Such a question is particularly relevant to recent research on attachment. We see attachment classifications (Ainsworth, Blehar, Waters, & Wall, 1978) as reflecting different sets of procedures that organize attempts to maintain security in different ways and we see "internal working models of attachment" (Bowlby, 1969) as reflecting the infant's organized body of procedures which need not be accessed consciously in order to be enacted. A profound question then emerges. How do infants integrate multiple "working models" dealing with self and other? How do they integrate different sets of procedures when they develop from qualitatively different relationships during infancy (Oppenheim, Sagi, & Lamb, 1988)?

There are a host of other questions raised by variations in social context involving individual differences, cultural comparisons, and clinical populations. But let us return now to a development watershed concerning research and our theory.

The watershed we speak of involves the development of reflective self-awareness and of language. Before these acquisitions, research questions probing for procedural knowledge are necessarily quite different than they will be later in development. Before 2 years, one can test hypotheses about existing internalized moral rules by observing (such as looking for modifications of behaviors in which presumed rules are embedded) or by introducing experiments (such as perturbations of presumed rules). One can also interpret procedural knowledge from infant responses to violations of reciprocity (Tronick & Gianino, 1986) and from observing infant patterns of context-dependent learning (Rovee-Collier & Hayne, 1987). But one cannot test explanations about procedural knowledge against alternative models involving declarative knowledge. After 3 years of age, when a child can speak and reflect, the researcher is in a better position. A number of meaningful questions arise, among which are the following: What are the relations between those "rules" that can be stated and those

that are based on procedural knowledge? Are stated rules those that are recently heard and “envoiced” from adults (Dore, 1989; Bakhtin, 1986)? Is there correspondence between what is activated procedurally (e.g., in observed empathic responding) and what is represented declaratively (e.g., in what the child tells us)? In general, we assume that the child gradually adds language, cognitive understanding, and shared meaning to ongoing affective–moral procedures, and that many action tendencies thus become rationalized. But this is a matter for research.

In concluding, we remind ourselves that our theory has taken shape in a very limited context. The children we have studied have typically been advantaged, healthy, and from one ecological setting. In this context, we have drawn a picture of the child’s early moral development that is largely positive. But circumstances of caregiving vary widely, not only because of culture, but because of deleterious circumstances—including famine, poverty, war, disease, drug abuse, and child maltreatment. We know that many children survive and develop an early moral self under such conditions, but we know little about how this happens. Similarly, when the child develops beyond age 3, expanded social relations include triangular configurations and feelings of competition, rivalry, and exclusion are likely to complicate earlier-established intimate dyadic relationships and procedures. The child’s world will change, but we presume that the child will carry forward a continued dynamic coherence about what feels right. We also hope that both of these features—change and coherence—will characterize our theory.

## REFERENCES

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Bakhtin, M. (1986). *Speech genres and other late essays*. Austin: Univ. of Texas Press (Original 1976).
- Bates, E., Bretherton, I., & Snyder, L. (1988). *From first words to grammar—Individual differences and dissociable mechanisms*. Cambridge: Cambridge Univ. Press.
- Berlyne, D. E. (1960). *Conflict, arousal, and curiosity*. New York: McGraw–Hill.
- Bertalanffy, L. von (1968). *General system theory foundation, development, application*. New York: Braziller.
- Bion, W. R. (1962). *Learning from experience*. New York: Basic Books.
- Bornstein, M. H., & Sigman, M. (1986). Continuity in mental development from infancy. *Child Development*, 57, 251–274.
- Bowlby, J. (1969). *Attachment and Loss: Vol 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and Loss: Vol. 2. Separation. Anxiety and Anger*. New York: Basic Books.
- Brazelton, T. B., & Als, H. (1979). Four early stages in the development of mother–infant interaction. *Psychoanalytic Study of the Child*, 34, 349–369.
- Brazelton, T. B., & Cramer, B. G. (1990). *The earliest relationship*. Reading, MA: Addison–Wesley.
- Bruner, J. (1982). *Child’s talk: Learning to use language*. New York: Norton.
- Buchsbaum, H. K., & Emde, R. N. (1990). Play narratives in thirty-six-month-old children:

- Early moral development and family relationships. *The Psychoanalytic Study of the Child*, 40, 129–155.
- Butterworth, G., & Jarrett, N. (1980, September). *The geometry of preverbal communication*. Paper presented to the Annual Conference of the Developmental Psychology section of the British Psychological Society, *Language, Communication and Understanding*, Edinburgh.
- Campos, J. J., Barrett, K. C., Lamb, M. E., Goldsmith, H. H., & Stenberg, C. (1983). Socioemotional development. In M. M. Haith & J. J. Campos (Eds.), *Handbook of child psychology* (Vol. II pp. 783–915). New York: Wiley.
- Clarke, A. M., & Clarke, A. D. B. (1976). *Early experience: Myth and evidence*. London: Open Books; New York: The Free Press, 1977.
- Clyman, R. B. (in press). The procedural organization of emotions: A contribution from cognitive science to the psychoanalytic theory of therapeutic action. *Journal of the American Psychoanalytic Association*, Supplement.
- Cohen, N. J., Eichenbaum, H., Deacedo, B. S., & Corkin, S. (1985). Different memory systems underlying acquisition of procedural and declarative knowledge. *Annals of the New York Academy of Sciences*, 444, 54–71.
- Cohen, N. J., & Squire, L. R. (1980). Preserved learning and retention of pattern-analyzing skill in amnesia: Dissociation of knowing how and knowing that. *Science*, 221, 207–210.
- Condon, W. S., & Sander, L. W. (1974). Synchrony demonstrated between movements of the neonate and adult speech. *Child Development*, 45, 456–462.
- Darwin, C. (1872). *The expression of emotions in man and animals*. London: Murray (Republished by University of Chicago Press, 1965)
- Decarie, T. G. (1969). A study of the mental and emotional development of the thalidomide child. In B. M. Foss (Eds.), *Determinants of infant behavior* (Vol. 4, pp. 167–187). London: Methuen.
- Deci, E. (1975). *Intrinsic motivation*. New York: Plenum.
- Dore, J. (1989). Monologue as reenforcement of dialogue. In K. Nelson (Ed.), *Narratives from the crib*. Cambridge, MA: Harvard Univ. Press.
- Dunn, J. (1988). *The beginnings of social understanding*. Cambridge, MA: Harvard Univ. Press.
- Dunn, J., & Kendrick, C. (1982). *Siblings*. Cambridge, MA: Harvard Univ. Press.
- Ekman, P., Friesen, W., & Ellsworth, P. (1972). *Emotion in the human face*. New York: Pergamon Press. (Guidelines for Research and an Integration of Findings)
- Emde, R. N. (1983). The prerepresentational self and its affective core. *The Psychoanalytic Study of the Child*, 38, 165–192.
- Emde, R. N. (1988). Development terminable and interminable. I. Innate and motivational factors from infancy. *International Journal of Psycho-Analysis*, 69, 23–42.
- Emde, R. N. (1990a, Fall). Lessons from infancy: New beginnings in a changing world and a morality for health. *Infant Mental Health Journal*, 11(3), 196–212.
- Emde, R. N. (1990b). Mobilizing fundamental modes of development—an essay on empathic availability and therapeutic action. *Journal of the American Psychoanalytic Association*, 38(4), 881–913.
- Emde, R. N., & Buchsbaum, H. K. (1990). “Didn’t you hear my mommy?”: Autonomy with connectedness in moral self emergence. In D. Cicchetti & M. Beeghly (Eds.), *Development of the self through the transition*. Chicago: Univ. of Chicago Press.
- Emde, R. N., Gaensbauer, T. J., & Harmon, R. J. (1976). Emotional expression in infancy: A biobehavioral study. *Psychological issues: A monograph series* (Vol. 10, No. 37). New York: International Universities Press.
- Emde, R. N., Johnson, W. F., & Easterbrooks, M. A. (1988). The do’s and don’ts of early



- moral development: Psychoanalytic tradition and current research. In J. Kagan & S. Lamb (Eds.), *The emergence of morality* (pp. 245–277). Chicago: Univ. of Chicago Press.
- Feinman, S., & Lewis, M. (April, 1981). *Maternal effects on infants' responses to strangers*. Paper presented at the Society for Research in Child Development meetings, Boston, MA.
- Feinman, S., & Lewis, M. (1983). Social referencing at ten months: A second-order effect on infant's responses to strangers. *Child Development*, 54(4), 878–887.
- Fraiberg, S. (1977). *Insights from the blind*. New York: Basic Books.
- Fraiberg, S. (1980). *Clinical studies in infant mental health*. New York: Basic Books. (The first year of life)
- Freedman, D. A., Cannady, C., & Robinson, J. S. (1971). Speech and psychic structure. *Journal of the American Psychoanalytic Association*, 19, 765–779.
- Haith, M. M. (1977). Eye contact and face scanning in early infancy. *Science*, 198, 853–855.
- Haith, M. M. (1980). *Rules that babies look by*. Hillsdale, NJ: Erlbaum.
- Haith, M. M. (1985). *Today's baby: Technology's product or nature's accomplishment?* Lecture presented at the University of Denver.
- Harlow, H. F. (1953). Motivation as a factor in the acquisition of new responses. *Nebraska Symposium on Motivation*, 1, 24–29.
- Hendrick, I. (1939). *Facts and theories of psychoanalysis* (2nd ed.). New York: Knopf. (Original work published in 1934)
- Hinton, G. E., McClelland, J. L., & Rumelhart, D. E. (1986). Distributed representations. In D. E. Rumelhart, J. L. McClelland, & the PDP Research Group (Eds.), *Parallel distributed processing: Explorations in the microstructure of cognition: Vol. 1. Foundations*. Cambridge, MA: MIT Press.
- Hoffman, M. L. (1977). Moral internalization: current theory and research. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10). New York: Academic Press.
- Hoffman, M. L. (1983). Affective and cognitive processes in moral internalization. In E. T. Higgins, D. N. Ruble, & W. W. Hartup (Eds.), *Social cognition and social development: A sociocultural perspective* (pp. 236–274). New York: Cambridge Univ. Press.
- Hunt, J. McV. (1965). Intrinsic motivation and its role in psychological development. In D. Levine (Ed.), *Nebraska symposium on motivation*. Lincoln: Univ. of Nebraska Press.
- Izard, C. E. (1971). *The face of emotion*. New York: Meredith & Appleton–Century–Crofts.
- Izard, C. E. (1977). *Human emotions*. New York: Plenum.
- Johnson, W. F., Emde, R. N., Scherer, K. R., & Klinnert, M. D. (1986). Recognition of emotion from vocal cues. *Archives of General Psychiatry*, 43, 280–283.
- Kagan, J. (1981). *The second year: The emergence of self-awareness*. Cambridge, MA: Harvard Univ. Press.
- Kagan, J. (1984). *The nature of the child*. New York: Basic Books.
- Kaye, K. (1982). *The mental and social life of babies: How parents create persons*. Chicago: Univ. of Chicago Press.
- Kleinman, A. (1986). *Social origins of distress and disease*. New Haven: Yale Univ. Press.
- Klinnert, M. D., Campos, J. J., Sorce, F. J., Emde, R. N., & Svedja, M. J. (1983). Social referencing: Emotional expressions as behavior regulators. In R. Plutchik & H. Kellerman (Eds.), *Emotion: Theory, research and experience: Vol. 2. Emotions in early development* (pp. 57–86). Orlando: Academic Press.
- Kohut, H. (1971). *The analysis of the self*. New York: International Universities Press.
- Kohut, H. (1977). *The restoration of the self*. New York: International Universities Press.
- Lewis, M., & Brooks-Gunn, J. (1979). *Social cognition and the acquisition of self*. New York: Plenum.

- Maccoby, E., & Martin, J. (1983). Socialization in the context of the family: Parent-child interaction. In W. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality and social development*. New York: Wiley.
- Mahler, M. S., Pine, F., & Bergman, A. (1975). *The psychological birth of the human infant: Symbiosis and individuation*. New York: Basic Books.
- Mandler, J. M. (1983). Representation. In J. H. Flavell & E. M. Markman (Eds.), *Handbook of child psychology: Vol. III. Cognitive development* (pp. 420-494). New York: Wiley.
- Markus, H., & Kitayama, S. (1990). *Culture and the self: Implications for cognition, emotion, and motivation*. Unpublished paper.
- McCall, R. B. (1979). The development of intellectual functioning in infancy and the prediction of later I.Q. In J. D. Osofsky (Ed.), *Handbook of infant development*. New York: Wiley.
- McClelland, J. L., Rumelhart, D. E., & the PDP Research Group (1986). *Parallel distributed processing: Explorations in the microstructure of cognition: Vol. 2. Psychological and biological models*. Cambridge, MA: MIT Press.
- Meltzoff, A. N. (1985). The roots of social and cognitive development: Models of man's original nature. In T. M. Field & N. A. Fox (Eds.), *Social perception in infants*. Norwood: Ablex.
- Morgan, G. A., & Harmon, R. J. (1984). Developmental transformations and mastery motivation: Measurement and validation. In R. N. Emde & R. J. Harmon (Eds.), *Continuities and discontinuities in development* (pp. 263-291). New York: Plenum.
- Oppenheim, D., Sagi, A., & Lamb, M. E. (1988). Infant-adult attachments on the kibbutz and their relation to socioemotional development in years later. *Developmental Psychology*, 26, 627-633.
- Osofsky, J. D., & Eberhart-Wright, A. (1988). Affective exchanges between high risk mothers and infants. *International Journal of Psycho-analysis*, 69, 221-232.
- Papousek, H. (1981). The common in the uncommon child. In M. Lewis & L. Rosenblum (Eds.), *The uncommon child* (pp. 317-328). New York: Plenum.
- Papousek, H., & Papousek, M. (1979). Early ontogeny of human social interaction: Its biological roots and social dimensions. In K. Foppa, W. Lepenies, & D. Ploog (Eds.), *Human ethology: Claims and limits of a new discipline* (pp. 456-489). New York: Cambridge Univ. Press.
- Papousek, H., & Papousek, M. (1981). How human is the human newborn, and what else is to be done? In K. Bloom (Ed.), *Prospective issues in infancy research* (pp. 137-155). Hillsdale, NJ: Erlbaum.
- Piaget, J. (1952). *The origins of intelligence in children* (Margaret Cook, Trans.). New York: International Universities Press. (Original work published in 1936)
- Radke-Yarrow, M., Zahn-Waxler, C., & Chapman, M. (1983). Children's prosocial dispositions and behavior. In E. M. Hetherington & P. H. Mussen (Eds.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th ed., pp. 469-545). New York: Wiley.
- Rest, J. R. (1983). Morality. In J. H. Flavell & A. M. Markman (Eds.), *Handbook of child psychology: Vol. 3. Cognitive development* (pp. 556-629). New York: Wiley.
- Rovee-Collier, C., & Hayne, A. (1987). Reactivation of infant memory: Implications for cognitive development. In *Advances in child development and behavior* (Vol. 20, pp. 185-238). Orlando: Academic Press.
- Rumelhart, D. E., McClelland, J. L., & the PDP Research Group (1986). *Parallel distributed processing: Explorations in the microstructure of cognition: Vol. 1. Foundations*. Cambridge, MA: MIT Press.

- Russell, J. A., & Ridgeway, D. (1983). Dimensions underlying children's emotional concepts. *Developmental Psychology*, 19(6), 795-804.
- Ryle, G. (1949). *The concept of mind*. New York: Barnes and Nobles.
- Sameroff, A. J. (1981). *Cerebral palsy*. Personal communication.
- Sameroff, A. J., & Chandler, M. (1976). Reproductive risk and the continuum of caretaking casualty. In F. D. Horowitz (Ed.), *Review of the child development research* (Vol. 4, pp. 187-244). Chicago: Univ. of Chicago Press.
- Sander, L. (1985). Toward a logic of organization in psychobiological development. In K. Klar & L. Siever (Eds.), *Biologic response styles: Clinical implication*. Monograph Series of the American Psychiatric Press.
- Scaife, M., & Bruner, J. S. (1975). The capacity for joint visual attention in the infant. *Nature*, 253, 265-266.
- Scherer, K. (1979). Nonlinguistic vocal indicators of emotion and psychopathology. In C. Izard (Ed.), *Emotions in personality and psychophysiology* (pp. 495-529). New York: Plenum.
- Schweder, R., Mahapatra, M., & Miller, J. (1987). Cultural and moral development. In J. Kagan & S. Lamb (Eds.), *The emergence of morality in young children* (pp. 1-90). Chicago: Univ. of Chicago Press.
- Snow, C. E. (1972). Mothers' speech to children learning language. *Child Development*, 43, 549-565.
- Sorce, J. F., & Emde, R. N. (1981). Mother's presence is not enough: The effect of emotional availability on infant exploration. *Developmental Psychology*, 17(6), 737-745.
- Sorce, J. F., & Emde, R. N. (1982). The meaning of infant emotional expressions: Regularities in caregiving responses in normal and Down's Syndrome infants. *Journal of the Child Psychology and Psychiatry*, 23(2), 145-158.
- Spitz, R. A. (1959). *A genetic field theory of ego formation*. New York: International Universities Press.
- Spitz, R. (1965). The evolution of dialogue. In M. Schur (Ed.), *Drives, affects, behavior* (Vol. 2, pp. 170-190). New York: International Universities Press.
- Squire, L. R., & Cohen, N. J. (1984). Human memory and amnesia. In G. Lynch, J. L. McGaugh, & N. M. Weinberger (Eds.), *Neurobiology of learning and memory*. New York: Guilford.
- Sroufe, L. A. (1979). Socioemotional development. In J. D. Osofsky (Ed.), *Handbook of infant development* (pp. 462-516). New York: Wiley.
- Stern, D. N. (1977). *The first relationship: Mother and infant*. Cambridge, MA: Harvard Univ. Press.
- Stern, D. N. (1985). *The interpersonal world of the infant*. New York: Basic Books.
- Stolorow, R., Brandchaft, B., & Atwood, G. E. (1987). *Psychoanalytic treatment: An intersubjective approach*. Hillsdale, NJ: Analytic Press.
- Trevarthen, C. (1979). Communication and cooperation in early infancy: A description of primary intersubjectivity. In M. Bullowa (Ed.), *Before speech: The beginning of interpersonal communication* (pp. 321-347). Cambridge, England: Cambridge Univ. Press.
- Tronick, E. (1980). The primacy of social skills in infancy. In D. B. Sawin, R. C. Hawkins, L. O. Walker, & J. H. Penticuff (Eds.), *Exceptional infant* (Vol. 4, pp. 144-158). New York: Brunner/Mazel.
- Tronick, E., & Gianino, A. (1986). The transmission of maternal disturbance to the infant. In E. Tronick & T. Field (Eds.), *Maternal depression and infant disturbances* (pp. 5-11). San Francisco: Jossey-Bass.
- Waddington, C. H. (1962). *New patterns in genetics and development* (Vol. 21). New York: Columbia Univ. Press. (Columbia Biological Series)
- Wellman, H. M., Cross, D., & Bartsch, K. (1986). Infant search and object permanence: A

- meta-analysis of the A-not-B error. *Monographs of the Society for Research in Child Development*, 51(3, Serial No. 214).
- White, R. W. (1963). Ego and reality in psychoanalytic theory. In *Psychological issues: Monograph No 11*. New York: International Universities Press.
- Winnicott, D. O. (1965). Ego distortion in terms of true and false self. *The maturational processes and the facilitating environment*. New York: International Universities Press; London: Hogarth Press.
- Wooley, J. D., & Wellman, H. M. (1990). Young children's understanding of realities, nonrealities, and appearances. *Child Development*, 61(4), 946-961.
- Zahn-Waxler, C., & Radke-Yarrow, M. (1982). The development of altruism: Alternative research strategies. In N. Eisenberg (Ed.), *The development of prosocial behavior*. New York: Academic Press.

RECEIVED: March 11, 1991.