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Early Resilience in the Context of Parent-Infant Relationships: A Social Developmental Perspective

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Summary

The growth of infants' regulatory capacities is foundational to the capacity for resilience. Variations in the quality of early social-emotional experience can promote or undermine infants' regulatory capacities. Such capacities are also dynamically sculpted by the relationships among infant, parent, and contextual-cultural factors. Brief periods of disorganization in parent-infant relationships are inevitable, common, and reflect everyday demands on parents and infants. The uneven nature of parent-infant interactions fosters the emergence of new infant capacities. Parental depression and anxiety as well as infant medical, behavioral and temperamental issues can result in prolonged periods of dyadic disorganization and maladaptive infant outcomes. Child health clinicians can help parents anticipate the normal periods of disorganization and assist parents as they strive to develop optimal parent-infant relationships.

Keywords

Resilience; parental depression; stress; mutual regulation; social-emotional development

Developmental theorists have typically conceptualized resilience as an individual's ability to cope with the contextual, biological or environmental stressors normally linked to adverse outcomes.¹ Most research on resilience has focused on older children and adolescents, and as a result, very little is known about the emergence of resilience in infancy.² In this paper, we argue that self and parent-infant regulatory processes established during infancy are foundational to the capacity for resilience in later childhood and are established primarily in the context of infant-parent relationships.^{3,4}

According to the Mutual Regulation Mode,^{5,6} infant-parent relationships are embedded within a dyadic mutually-regulating communication system made up of an infant subsystem, a parental subsystem, and the dynamic interaction between them.^{6,7} Although this perspective focuses primarily on the interpersonal nature of development, it is embedded

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within broader theoretical perspectives including dynamic systems approaches, developmental systems/organizational perspectives, and person-process-context models. It is also influenced by Brazelton's view of pediatric care.⁸

The Mutual Regulation Model predicts that infants and their parents *co-regulate* their social interactions by responding moment-to-moment to each other's affective and behavioral displays. The success or failure of their mutual regulation depends on four reciprocal processes: (1) infants' ability to self-organize and control their physiological states and behavior, (2) the integrity and maturation of sensorimotor, attentional, and social-emotional elements of infants' communicative system (e.g., gestures, gaze shifting, affective displays), (3) parents' ability to apprehend and correctly interpret their infant's communications, and (4) parents' motivation and capacity to respond to their infant contingently and appropriately in order to facilitate their infant's regulatory efforts.⁷ When self- and parent-infant regulatory processes function well, infants can actively and thoroughly engage the world of people and objects,⁵ and over timetheir repeated, active transactions with the social and inanimate environment support positive developmental outcomes.⁵ Older, more mature infants have a larger repertoire of regulatory strategies (e.g., independent locomotion, selective attention, gestural communication, and language) and rely less on fussing and self-soothing to regulate arousal and attentional states.³ After the first year, toddlers begin to internalize their social experiences and develop rudimentary "working models" or mental representations of how their mother and other caregivers are likely to respond and behave, and they begin to gain a sense of their own agency and efficacy in the social world. These internal working models gradually come to act as superordinate regulators of biological systems and increasingly influence how infants respond to others, cope with stressful situations, and regulate their emotions and behavior.³

Although infants' capacities are impressive, their immaturity constrains their self-regulatory and communicative capacities, and as a result they can easily become dysregulated. Therefore, parents play a critical role in scaffolding infants' engagement with people and objects and in repairing disruptions ("mismatches") in parent-infant relationships.^{5,7} Brief dyadic mismatches occur frequently during typical parent-infant social interactions, and when repaired quickly, are thought to promote the growth of infants' self-regulatory skills and emerging mental representations of self-efficacy and basic trust.⁵

Through mutual regulatory processes and the repairing of interactive mismatches ("reparatory processes"), the parent-infant dyadic system creates new "meanings" for each partner, which are incorporated into memory, with or without consciousness, increasing each partner's socio-affective complexity.⁵ Developing a successful reparatory history with a specific person via iterated exchanges such as caretaking routines, playful interactions or social games leads to an implicit, preverbal "knowing" by infants that "we can repair mismatches".⁵ In turn, the experience of reparation contributes to a sense of trust and eventually, a secure attachment relationship with that person. Notably, dyads' successful reparatory processes are associated with positive affect.⁶ For infants, iterative successful reparatory processes contribute to the formation of a core sense of positive affect, conveying a general sense of well-being⁹ and an emergent sense of mastery and agency.⁸ We suggest that coming to novel or uncertain situations with a sense of trust, secure attachment, positive affective core, general sense of well-being, and an emergent sense of agency may define the robust or resilient infant.⁵

A more troubling scenario arises when dyadic mismatches are not repaired in a timely way and become prolonged. Without the provision of appropriate parental support and scaffolding, infants are likely to become persistently dysregulated or disengaged. Such infants must therefore use much of their energy resources to self-regulate and achieve

homeostasis and consequently spend less time engaging the social and inanimate environment.^{5,6} In turn, chronically dysregulated or disengaged infants may fail to resolve age-salient developmental tasks, eventually leading to maladaptive developmental outcomes.⁵

Individual Differences in Mutual Regulation

The presence of infant, parental, and familial risk factors (e.g., infants' difficult temperament or premature birth, maternal depression, paternal alcohol abuse, poor social support, family violence, or inadequate finances) as well as parents' culturally-specific beliefs and values regarding caregiving may differentially influence the level of parents' sensitive responsiveness to their infant's cues.⁷ These multi-level variations, in turn, affect the children's ability to regulate states and achieve goals. Genetic factors may also play a role. Deater-Deckard & O'Connor¹⁰ evaluated whether maternal-child mutuality was associated with degree of kinship or child behavior problems within families. They found that the same mother engaged in different levels of mutuality with her different children, and that both degree of kinship and variations in mother-child mutuality were associated with variations in child temperament (e.g., proneness to anger and soothability). This suggests that both evocative gene-environment correlations and non-shared environmental influences shape parent-child relationships. However, in a later study of adoptive families, for whom parent-child kinship was zero, greater parent-child mutuality was associated with lower levels of child aggression and other behavior problems, highlighting the importance of parent-child interactive processes in fostering children's positive adaptation.¹¹

Individual differences in infants' level of bio-developmental risk also impact parent-infant mutual regulation and moderate the effects of parenting style on children's later outcomes. Among infants born prematurely with very low birth weight (< 1500 g), nervous system compromise may prevent the infant's ability to organize, integrate, or sustain positive attentional, behavioral and/or emotional states without exceptionally sensitively-attuned parental support. Landry et al.¹² showed that preterm infants had better developmental outcomes when their mothers maintained rather than re-directed their infants' focus of attention during toy play. This association was stronger for preterms with a higher level of bio-developmental risk. Higher-risk preterms also benefitted more than lower-risk preterm infants from a parenting intervention designed to support parental responsiveness and maintain mother-toddler joint attention.¹³

The presence of parental psychological problems such as depression or anxiety can lead to prolonged periods of disorganized parent-infant social interactions, compromising long-term infant outcomes. A wealth of studies has shown that maternal depression is a strong predictor of infants' social, emotional, and cognitive problems throughout the life span.^{14,15,16} Beeghly et al.¹⁷ found that mothers with a high level of depressive symptoms early in the postpartum year tend to continue experiencing high symptoms over the next several years, and that the severity and chronicity of their symptoms are exacerbated by the presence of social risk factors such as poverty or single parenthood. This indicates that infants of mothers with high depressive symptoms, compared to infants of non-depressed mothers, are more likely to be chronically exposed to negative maternal mood states and associated compromised social interaction patterns.¹⁷

Both infant and parental characteristics contribute to the negative outcomes associated with maternal depression, although specific findings vary. Field et al.¹⁸ showed that infants of depressed mothers were less responsive to faces and voices as early as the neonatal period and to their own and other infants' cry sounds, suggesting a higher level of arousal, less attentiveness, and/or slower processing. By 3–6 months, infants of depressed mothers

showed less negative responding to their mothers' non-contingent and non-responsive facial expressions, suggesting that they were more accustomed to this behavior in their mothers. In turn, the depressed mothers exhibited less responsive behavior with their infants, and this effect was strengthened when mothers had co-morbid mood states of anger and anxiety.¹⁸ In other research using the Still-Face paradigm at 3 months, Weinberg et al.¹⁹—found that mothers with a high level of postpartum depressive symptoms had more difficulty repairing the dyadic rupture caused by still-face than nondepressed mothers, and this effect was stronger for depressed mother-son dyads.

Lastly, for both at-risk and typically developing children, the process of parent-infant mutual regulation and infants' self-regulatory capacities takes place within a cultural framework. Parents' caregiving practices are embedded within the context of their culturally-specific beliefs and values (e.g., individualistic versus collectivistic).²⁰ Thus, variations in caregiving behavior affect how distressed infants develop regulatory capacities, which, in turn, affects mothers' caregiving practices. For instance, the Efe, a foraging people in the Congo, typically respond to their infants' cries quite rapidly, within 10 seconds 90% of the time.²⁰ This rapid parental response shapes their infants' experience with distress, their regulation of arousal and stress, and their expectations about their mother's responsiveness. In contrast, in many industrialized Western nations, infants are often left to cry for longer periods of time before parental intervention, suggesting that Western parents place a greater demand on their distressed infants for self-soothing and self-regulation.²⁰

Implications for Health Care Professionals

This literature has clinical significance for pediatricians and other health care professionals serving families with infants and young children. First, practitioners should be aware that infants' self-regulatory capacities provide the basis for the development of resilience, and that these capacities organize within the context of parent-infant relationships. Second, periods of miss-coordination in the parent-infant relationship occur frequently, are normative, and likely reflect the role of everyday stressors, everyday activities, and the uneven nature of infants' developmental trajectories. Because these periods of dyadic disorganization may temporarily disrupt infants' regulatory capacities and the quality of parent-infant relationships, health care professionals can help parents understand normative periods of disorganization as a way to support parent-infant relationships.⁸

Third, findings regarding maternal depression indicate that, when chronic, higher levels of maternal depressive symptomatology or other affective disorders may contribute to persistent infant dysregulation and compromised parent-infant relationships, which can lead to maladaptive child outcomes. Pediatricians and other health care providers should attend to these parental conditions in order to promote optimal child outcomes and prevent developmental problems. Once detected, maternal depression and anxiety can be dealt with effectively.¹⁴

Finally, although regulation is a joint activity of both infant and parent, parents play a greater role in providing regulatory input to their immature infants whose own resources are insufficient. Feeding a hungry child repairs the child's state of distress and metabolic homeostasis is returned. In contrast, giving the hungry child an object to play with or ignoring the distress fails to repair the child's state. Such distress continues at high energetic cost, precluding the child's engagement with the world and compromising development.

Fortunately, most infant-parent dyads are “good enough” and their mutual regulatory processes build resilient outcomes. Without the provision of appropriate parental regulatory support, however, infants enter into costly disruptive states. If mutual regulation fails on a frequent basis, it is likely to herald developmental problems, and when severe (e.g., neglect),

even physiologic failure may ensue.⁵ Thus the Mutual Regulation Model provides a framework for pediatricians and other health care professionals to carefully attend to the quality of the parent-infant relationship.

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