

Cultural Models and Developmental Agendas: Implications for Arousal and Self-regulation in Early Infancy

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Abstract: *Parental ethnotheories—the shared, abstract, and often unconscious mental schema for understanding children, families, and the self as parent—organize parental behaviors. This paper focuses on parental ethnotheories and developmental agendas concerning the regulation of infant states of arousal, as expressed in interviews by 96 mothers in five cultural communities (in Italy, Korea, the Netherlands, Spain, and the United States). Transcriptions of the hour-long home interviews were coded for nine themes of child development and 34 related caretaking practices. A Salience Index was derived for each theme to reflect both the frequency of its occurrence in the interview and the number of practices associated with it. Statistical analysis of these indices demonstrates clear differences among the groups in how aspects of infant state are framed and which themes constitute culturally defined developmental agenda. Qualitative analysis elaborates the unique cultural frameworks used by these mothers. Each framework is fully adequate for managing the arousal states of infants and leading them to a more mature pattern of self-regulation, building a platform for their future engagement in the social, emotional, and educational life of their developmental niches.*

Cultural Models and Developmental Agendas

From a developmental perspective, early infancy is a busy time for babies. Beyond surviving the biological vulnerability that comes with transition to life outside the womb, they must learn within the course of a few months how to feed, consolidate patterns of activity and rest in coordination with their caretakers, establish life-sustaining relationships with them, form mental representations for objects and experiences, and regulate their own responses to the sensory experiences generated by their environments of care. All of these developmental agendas are supported by maturational changes in the organization of states of arousal, a dimension of functioning that is often seen more as background than as “development” itself.

Although the field of developmental psychology has given relatively little attention to state of arousal, or organizational state, its importance for understanding the behavior of newborns was established in the 1950s by Wolff (1959) and subsequently Prechtl and Beintema (1968). This recognition marked a turning point in infant research (Als, Tronick, Lester, & Brazelton, 1979; Korner, 1972). Researchers following in this tradition have examined organizational state both as a behavioral response and as a platform for other behaviors. Infant arousal as indexed by smiling, vocalization, and physiological measures has been shown to vary contingently with maternal response, both positively, as high levels of interaction lead to increased infant arousal (Symons & Moran, 1987), and negatively, in that deliberate simulation of non-responsive maternal behavior has been shown to result in disrupted infant arousal and affect (Cohen & Tronick, 1983). In the cognitive domain, the infant’s disposition to attend to information and to process experience is dependent on momentary state (Aslin & Fiser, 2005; Rothbart, Ziaie, O’Boyle, Eisenberg, & Fabes, 1992).

Beyond these transient effects, organizational state is also a potent mediator of further experience, determining opportunities to engage in social activity, demonstrate competence, and acquire new skills. This is evident in the differential experience of infants of divergent temperamental dispositions (Super & Harkness, 1986b; Thomas

& Chess, 1977; van den Boom, 1994). In addition, however, daily routines and social settings provided by the infant's caretakers also provide varying opportunities for social and physical interaction, and these in turn influence the development of organizational state. For example, recent advances in understanding stress and its influence on neural architecture and functioning of the hypothalamic-pituitary-adrenal axis suggest life-long consequences of emotional experience and arousal states in infancy (Meaney et al., 1991; Suomi, 1991). Thus, infant-environment interactions during early development influence the organization of states and self-regulatory processes as a substrate for subsequent behavior throughout the domains of cognitive performance and academic learning, emotional expression, and social interaction.

The infant's competence in organizing internal resources for management of the self and interactions with the world emerges in accord with species-specific developmental principles. Nevertheless, as indicated above, transactions with the infant's physical and social environment play a formative role, and in this light, it is evident that culture as an organizer of the environment puts its imprint on the process (Super & Harkness, 2002). What aspects of development are seen as important and what caretaking behaviors are applied to those ends are cultural phenomena; that is, cultures have their own developmental agendas. Parents and other caregivers in a cultural community share beliefs and action plans, or cultural models, concerning the processes and goals of early development (Harkness & Super, 1996b).

Cross-cultural variability in parents' beliefs and practices related to infant care and development has been documented in a number of studies. LeVine (1974), for example, has argued that in societies characterized by high rates of infant mortality, such as traditional sub-Saharan communities, the attention of caregivers is organized around constant vigilance for the physical safety of the infant, at the expense of psychosocial development. A vivid portrayal of parents' beliefs and practices related to infants in one such culture has been provided by Gottlieb's (2004) detailed study among the Beng of West Africa, where infants are seen as hesitant travelers from the afterlife who must be gently persuaded to remain in the world of the living. In another dimension of contrast, Tronick and his colleagues have examined patterns of multiple caretaking among the Efe pygmies of central Africa as counterpoint to the Western insistence on the importance of a single primary caretaker (Tronick, Morelli, & Ivey, 1992). Caudill and Weinstein's classic study of Japanese and U.S. mother-child interaction contrasted a soothing, intimate style of caretaking by Japanese mothers that seemed designed to socialize the infant into close, mutually dependent relationships, with the more arousing style of American caretaking intended to foster the growth of active independence (Caudill & Weinstein, 1969).

Such cultural contrasts are not confined to East versus West or post-modern versus pre-industrial societies. For example, New and Richman (1995) compared long-term goals and socialization practices among northern Italian and New England middle-class mothers, suggesting that specific practices such as putting the baby on the floor to play and explore the environment are related to an emphasis on the importance of achieving independence versus an interdependent family lifestyle. Most often in studies such as these, however, only indirect evidence for parents' developmental agenda is provided, even when expectations for some particular behavioral milestones are

quantified (Frankel & Roer-Bornstein, 1982; Ninio, 1979). There are few detailed, integrated, comparative studies of how parents conceptualize their infants, think about development, and understand the meaning of their own caretaking practices in relation to such concepts.

A Theoretical Model of Parental Ethnotheories, Parenting Practices, and Developmental Outcomes

Of particular importance in advancing a scientific understanding of developmental processes is a more complete model of the links between cultural communities and parental ethnotheories, between ethnotheories and everyday practices, and between practices and developmental outcomes. A brief look at the current literature on environments and development makes the lacunae obvious. On the one hand, neuroscientists are making rapid advances in the laboratory analysis of brain mechanisms underlying infants' cognitive behaviors (Aslin & Fiser, 2005; Johnson & Munakata, 2005). However, as the environments referenced in theoretical approaches to "gene-environment interaction" are the everyday environments, not laboratory environments, this line of research, powerful though it is, cannot complete the model. On the other hand, psychological research outside the laboratory generally follows the discipline's mono-cultural tradition, reducing variation in environments to unidimensional differences in maternal personality, minority status, deprivation, or pathology (Dumas et al., 2005; Matheny, Wachs, Ludwig, & Phillips, 1995; Wachs & Cucinotta, 1971). In light of the rapid and often superficial translation of much contemporary research on early development into the public domain (Bruer, 2002), it is particularly important to elucidate a model of individual-environment transactions that presupposes the possibility of multiple pathways to healthy development.

Several models of the environment as a cultural construction have been offered by Super and Harkness (1986a), Weisner (2002), and Worthman and Brown (2006). With slightly different emphasis on the individual, the family, or the biosocial nature of development, each of these models suggests a way to acknowledge both the environment's organization as a system and the immediacy of that organization for the individual child. The Development Niche framework elaborated by Super and Harkness has been widely applied in studies of infancy and later stages of development (Grigorenko & Sternberg, 2001; Harkness, Wyon, & Super, 1988; Pellegrini & Stanic, 1993; Super, 1976; Super & Harkness, 1982, 1986a, 1994; Super, Keefer, & Harkness, 1994). In this framework, there are three mutually interacting subsystems that directly interface with the growing individual: the physical and social settings of everyday life, the customary practices of child care, and the psychology of the caretakers, including shared beliefs, or parental ethnotheories. Each of these subsystems is influenced by aspects of the culture. In the present study, for example, aspects of the wider environment (such as type of housing and neighborhood characteristics) had an obvious impact on the baby's immediate settings of daily life and on customs of care, such as taking the baby out for a walk in the carriage. Nevertheless, parents' beliefs—especially those that are shared with a community in a given time and place—are

powerful influences on the two other subsystems of the developmental niche. That is, within the constraints given by the wider environment, parents make choices—mostly implicit—about the best ways to take care of their infants, and these choices tend to follow culturally recognizable patterns. As we have written elsewhere, parental ethnotheories thus function “as the nexus through which elements of the larger culture are filtered, and as an important source of parenting practices and the organization of daily life for children and families” (Harkness et al., 2006, p.62).

Recognition of the importance of parental ethnotheories for the organization of the child’s daily life, however, still leaves open the question of how beliefs relate to behavior—in this case, parental behavior. The history of research and thinking on the belief-behavior connection over the last 50 years or so reveals a continuing tension between an emphasis on the necessity of recognizing beliefs for understanding behavior, on the one hand, and an insistence, on the other, that behavior cannot be simply predicted on the basis of beliefs. Goodnow and Collins (1990) succinctly summarized this history as it relates to the study of parental beliefs, from early optimism about the importance of parents’ expectations and attitudes, to a narrowed focus on behavior in the 1960s, and then to renewed interest in beliefs as the neglect of parents’ thinking came to seem inappropriate. The “cognitive revolution” of the 1970s, as Harkness and Super (Harkness & Super, 1996a) pointed out, also contributed to renewed interest in studying not only the way people act, but the way they think as an important topic in its own right. Recognition of the cultural framing of parental thinking was put into sharper focus, within psychology, by cross-cultural studies of “developmental timetables” or parental expectations of when children should achieve certain universal developmental milestones such as sitting without support. More recently, studies have documented the correspondences among parental ethnotheories, culturally shaped practices, and developmental outcomes for children across a wide array of cultures and domains (Harkness & Super, 1996b; Harkness, Super, & van Tijen, 2000). However, there is little research to date that traces the specific linkages from parental ethnotheories to behavior, and ultimately to developmental outcomes for children and families.

In the present paper, we present partial results from a cross-cultural investigation incorporating multiple methods for the study of parental ethnotheories, parenting behavior, and child outcomes particularly as they relate to the development of patterns of rest, arousal and self-regulation in infancy. Our approach makes use of a heuristic model in which beliefs are organized in a hierarchical order (Harkness & Super, 2005), and linked indirectly although powerfully to behavior (see Figure 1). At the top of the hierarchy are the most general, implicit ideas about the nature of the child, parenting, and the family. Below this triad are ideas about specific domains, such as infant sleep or social development. These ideas are closely tied to ideas about appropriate practices, and further to imagined child or family outcomes. Ideas are translated into behavior as mediated by factors such as child characteristics, situational variables, and competing cultural models and their related practices. The final results can be seen in actual parental practices or behaviors, and actual child and family outcomes. The present paper focuses on the first part of the model: Ideas about aspects of child development and about parenting practices, specifically in relation to early infancy. An understanding of these beliefs about the child and about practices is fundamental to

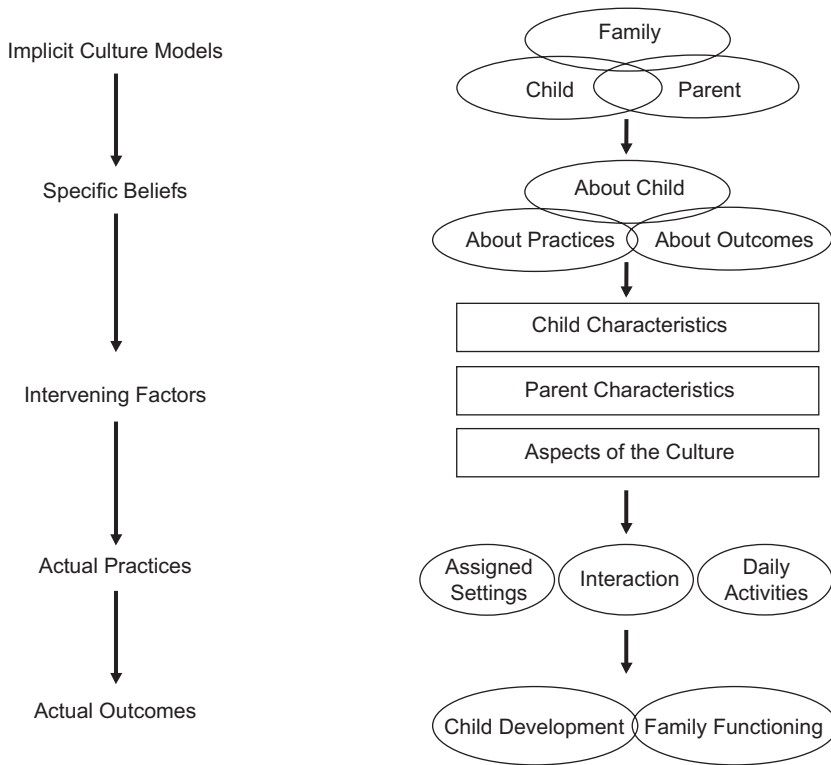


FIGURE 1. Theoretical Model of Ethnotheories, Practices, and Outcomes

the formulation of parental ethnotheories at their most general, abstract level, on the one hand, and to the interpretation of actual parenting behavior, on the other. In our conclusion, we offer some hypotheses about the implications of cultural differences in parental ethnotheories for the development of organization of state during infancy.

The International Baby Study, from which the present data are drawn, is a five-site collaborative project focused on how parental ethnotheories and practices influence emerging patterns of rest, arousal, and self-regulation during the first two years of life. The study builds on findings of the International Study of Parents, Children, and Schools, a seven-site project that developed some of the methods used here (Harkness et al., 2006; Harkness et al., 2000; Super et al., 1996). The present article focuses on key beliefs and practices related to early infancy within each site, as described in parental interviews. By understanding how parents think about their babies and how best to take care of them in the early infant period, we can begin to elucidate the implicit developmental agendas that shape caretaking practices and thus build the platform for further development. To the extent that such developmental agendas vary consistently across cultures, we can identify differing strategies that may, ultimately, be key influences in setting characteristic patterns of organizational state in infancy and beyond.

Methods

Samples

The samples for the present study are drawn from a larger two-year longitudinal study in the United States and the Netherlands, augmented with partial replications in Spain and Italy, and most recently Korea. Study sites in each country were chosen to be broadly representative of a local middle-class population in a city or region. Because the central purpose of the project was to identify shared cultural models and their directive role in early development, the samples were restricted to families in which both parents were native-born and native speakers of the local language, one or both parents worked, and there were no serious health problems. Other family characteristics such as parental age and education, marital status, parental employment, and child care arrangements were left to vary freely. How representative these samples might be of the larger societies from which they were drawn is an empirical question not addressed here; the goal of the study was not to establish national profiles, much less capture intracultural variability within the increasingly multicultural populations, but rather to identify shared parental ideas and their relationship to parenting practices and child outcomes within somewhat homogeneous groups in each cultural site. Accepting the normal variation of demographic characteristics found within the target communities increases the representativeness of the samples for their own larger social context, and at the same time makes it possible to examine the relationships between some parental characteristics and particular ideas or practices, both within and across sample membership. Table 1 presents a summary of the sample characteristics in each cultural site. Group differences in parental education, maternal employment, and (to a lesser degree) parental age are statistically significant.

Research participants in each country were recruited using a variety of methods including advertisements in health clinics, prenatal classes, and child care centers, as well as word-of-mouth through social networks. Enrollment took place during pregnancy and the first two months after the birth. Parents who expressed interest in participating were called by a member of the research team to check for appropriateness in terms of the general parameters mentioned earlier. The nature and purpose of the study were then explained by a member of the research team, and normal consent procedures in each site were followed.

Italy

The Italian families lived in and around Padua, a modern city in northeastern Italy comprised of mostly middle- and upper-middle-class working and professional families. The city has a population of 200,000 and lies in an economically productive region characterized by small- to medium-sized industries. Most participating families were middle-class and lived outside the town center in modern condominium apartments or separate houses. Although the neighborhoods varied in terms of density of population and availability of services (e.g., health care agencies, shops, parks), in

Table 1. Sample Characteristics (mean and range, or percent)

	Italy	Korea	Netherlands	Spain	USA	<i>F</i> (<i>df</i> = 4/79) or Chi-square	<i>p</i>
Number of families	20	21	15	20	20		
Mother's age	31.5 (22–39)	29.7 (23–37)	32.6 (22–36)	31.9 (24–42)	31.3 (22–37)	11.80	<.0001
Father's age	35.0 (27–43)	32.7 (27–41)	36.6 (31–43)	32.3 (21–47)	33.5 (22–49)	4.33	.003
Mother's years of education	12.9 (8–18)	15.7 (12–18)	13.0 (10–16)	15.6 (12–17)	17.5 (13–24)	2.08	.11
Father's years of education	13.6 (8–21)	16.2 (12–18)	13.4 (11–16)	16.1 (12–19)	15.6 (12–24)	2.73	.04
Percent mothers employed	15%	13%	0%	5%	80%	46.17	<.0001
Hours per week (if employed)	36.3 (17–50)	30.0 (10–50)	–	24.4 (10–40)	21.3 (6–52)	0.5	ns
Percent male infants	50%	61%	53%	50%	55%	0.71	ns
Percent first-born infants	70%	43%	60%	50%	65%	4.07	ns

general they were urban, residential communities offering parents the possibility to go out for walks with their babies and meet other families in public spaces (e.g., playgrounds). Relatives including grandparents, aunts and uncles, and cousins generally lived in the same city and were part of the social landscape of the sample families. Occupations of the fathers, and of those mothers who worked before childbirth (50% worked full-time, 30% part-time), covered a broad range of income and status, including baker and biologist, fireman and physician, shopkeeper and skilled worker, engineer and teacher, financial analyst, nurse, architect, baby-sitter, and clerical worker. At the time of recruitment into this project, three mothers were housewives, and seventeen were on maternity leave. In Italy, maternity leave and pay are among the most generous in the European Union, although employers provide very few family-friendly arrangements (Hardy & Adnett, 2002). Each parent can take a 10-month-parental leave at any time until the child is 8 years old, which is extended to 11 months if the father takes at least three months. This is paid by the government at 30% of normal earnings. Italian parents can also use parental leave to shorten their working hours by two hours per day during the child's first year; usually mothers take advantage of this possibility because it facilitates breastfeeding and allows them to manage the household more easily (Hardy & Adnett, 2002).

Korea

The Korean families in the sample lived in two cities, Daejeon and Incheon. Daejeon is a metropolitan city with a population of 1,440,000. Many national and private

companies maintain high technology research laboratories in Daejeon and thus many fathers of the sample families were working as researchers. Incheon is also a metropolitan city, with a population of 2,660,000. Incheon hosts Korea's primary international airport and second biggest harbor. Most families in the sample were middle-class and lived in apartments; only a few lived in separate houses. In Korea it is very common for a family, especially with small children, to live in an apartment within a very large group of apartment buildings surrounding small parks and playgrounds. At the time of this research, many of the participating families were living with their parents temporarily, as it is a very common practice for grandmothers to look after the new babies and provide postpartum care for mothers. Even though the occupations of the fathers ranged from shopkeeper and skilled worker to dentist and lawyer, most fathers worked as salaried employees for big companies or research institutes. Most of the mothers who worked before childbirth (50% worked full-time) were teachers or office workers. In Korea, working women get 90 days of paid maternity leave before or after childbirth. By the time of recruitment (i.e., when the infant was age 2 months), three mothers had already gone back to work (two mothers full-time, one mother part-time).

The Netherlands

The Dutch sample was recruited from the more rural towns in the most densely populated area of the Netherlands, south of Amsterdam. All participating families lived in residential communities in attached row-houses, with pedestrian walkways and bike paths along the streets and easy access to schools, playgrounds, small parks, and village shopping. A Dutch mother is entitled to have at least 16 weeks of paid perinatal leave from work, and all the mothers in our sample were still home from work at the 2-month interview. These mothers had also had the help of a paid "childbirth caretaker," a paraprofessional who comes to the home to help with both health care and household management for approximately a week after the baby's birth, which for most of these mothers took place at home. Many of the mothers later took up employment, often part-time, in such positions as teacher, nurse, sales clerk, or accountant. Fathers in the Dutch families were employed in a range of occupations, including store manager, chemist, salesman, teacher, landscaper, and journalist.

Spain

All the mothers in the Spanish sample lived in Seville, the capital city of Andalusia, with a population of around 700,000 inhabitants. Most of the families had members of the extended family living in the city (sometimes in the same neighborhood) and family visits took place at least on a weekly base. The families in the Spanish sample lived in apartments in large buildings, a typical living arrangement in Spanish cities. These apartment buildings are easily accessible with a baby carriage and parents do not normally need to walk far away to find a park or a public place where they can spend time with the baby outside the home. The weather in southern Spain is very

mild during the winter months, and families like going outside with the baby to simply spend time in the sun or to visit relatives or friends, or to socialize the baby. For those mothers who are employed, there is a maternity leave of four months. This leave is fully paid and fathers can take part of the leave. In the Spanish sample, 75% of the parents were married or in domestic unions. Most of the mothers were working (all but 12.5%), and their jobs were quite varied, including teachers, nurses, clerks, and sales assistants. At the time of the two-month interviews, all but one of the mothers (who was a university teacher) were home on maternity leave.

The United States

The U.S. families lived in suburbs and small towns in central and eastern Connecticut. Almost all owned or rented their own homes, usually surrounded by a small yard. Although this arrangement provides easy access to the outdoors and open play space, the generally dispersed housing patterns meant that shops, schools, and other institutions were rarely within walking distance. In the semi-rural or suburban areas, there were few sidewalks, making it difficult to even walk with the baby in a the carriage; some mothers solved this problem by packing the baby up in the car and driving to a local mall with outdoor walkways where they could stroll around, shop, and get a bite to eat. Few mothers had family close by, although most had relatives in the same or a nearby town. Most of the mothers in this sample were employed before giving birth, and the majority had resumed work, at least part-time, by the baby's second month, as paid maternity leave is not common. Most of the fathers were able to arrange some time at home after the birth, but none had lengthy paternity leave. The mothers' occupations covered a wide range including salesclerk and foster parent, social worker and attorney, librarian and preschool teacher. The fathers, too, worked in varied positions, including truck driver, professor, attorney, software technician, and business manager.

Procedures

The interviews analyzed here are part of a larger set of data collection methods, including videotaped observations, questionnaires, and assessments of infant reactivity (e.g., to a bath or to arm restraint) that were carried out at various ages. Given our interest in learning about cultural influences on early regulation of state, the interviews included questions about the baby's daily routines and parents' strategies for organizing feeding and sleep into regular patterns. In order to explore parental ethnotheories of the infant as they might influence caretaking practices, we also asked about what kinds of activities the parents thought should be included in the baby's day, and what was most important for the baby's development at that particular time. The interview also covered other topics such as perceptions of the baby's personality, mothers' sources of advice and support, emotional well-being, and coping with the demands of parenthood. In the United States, Spain, Holland, and Korea, most families in the study were enrolled during the last half of pregnancy, and were visited at home, shortly after

Table 2. Themes and Practices Coded

Themes	11. Affectionate closeness, caress
1. Cognitive processing	12. Physical proximity, hold, touch
2. Physical closeness	13. Physical manipulation, massage
3. Physical experience and well-being	14. Bath
4. Regularity of routines	15. Breast feed
5. Sleep/rest	16. Give pacifier
6. Social intelligence	17. Adjust diet (mother or baby)
7. Social-emotional closeness	18. Change diaper, clothes
8. Stimulation of development	19. Leave alone to entertain self
9. Tranquility/calm	20. Not respond (though present)
Practices	21. Decrease stimulation, quiet environment
1. Give toy, object, mobile	22. Put down for nap or rest
2. Physically active play	23. Put to bed, not in busy place
3. Exercise device: jumper, bouncer	24. Nap in car
4. Play, unspecified	25. Co-sleep
5. TV, video	26. Do specified practice at set time
6. Just be with	27. Take specific safety measure
7. Talk to, encourage sounds	28. Include baby in daily routines
8. Sing	29. Take or leave outside
9. Play music	30. Take on errands, shopping
10. Read book	31. Take to social place
	32. Take to daycare

the birth of the child, and again at two weeks of age. The interviews analyzed here, therefore, were from the fourth meeting with the parents. In Italy, and for some late enrollments in the other sites, the present interview was the first point of data collection. Interviews were carried out at home at a time convenient to the parents. Most of the two-month interviews were with only with the mother, and we therefore focus here on her responses. Interviews were tape-recorded and transcribed in the original language for coding. Translations were used only for communicating across the sites and for publication purposes.

For the present paper, analysis of the interviews involved identifying themes of child development and care and related parenting practices. Both the themes and practices were inductively derived from the interviews themselves as well as from previous related research (Harkness et al., 2006; Super et al., 1996). This process was an iterative one, with several rounds of revision and recoding as new themes emerged or further refinement of their definitions became necessary. The themes and practices were encoded using Nvivo, a commercial computer program for qualitative analysis (QSR, 2002). Ultimately, we decided to focus on nine developmental themes that appear to capture key concepts in all the sites and, with some allowance for variation in nuance, allow for cross-cultural comparison. These themes, as well as the 34 practices identified in relation to them, are presented in Table 2.

The themes and practices were analyzed using both quantitative and qualitative approaches. For the quantitative analysis, we assumed that the more frequently a theme was used, the more important it was for the parents, an approach we have used successfully with other similar data (Harkness et al., 2007; Harkness & Super, 2005;

Harkness et al., 2000). It was evident, however, that some discussions were more abstract than others, without convincing detail as to why the idea was important for development and what the parents did in regard to it. On the other hand, mothers would sometimes include considerable detail as to what they did and why, even if they did not return frequently to the topic. An index of Theme-and-Practice Salience was constructed, therefore, to reflect these twin aspects of mothers' discourse for each of the themes: frequency of use and number of associated practices. First, for each interview, the relative frequency of each of the nine themes was calculated as a percent of all instances of all themes; and second, the number of practices identified with each theme was calculated as a percent of all practices mentioned for all nine themes. The Salience Index for each theme was then computed by multiplying its relative frequency by the proportion of practices linked to it. Finally, the results were made proportional within each sample (by calculating them as percents), to facilitate cross-group comparisons. The qualitative analysis builds from the quantitative results and seeks to find patterns of meaning through closer examination of how the themes and practices were described by mothers in the context of talking about their infants. Ultimately, this qualitative analysis forms the basis for deriving our interpretation of cultural models of the child and of parenting.

Results

We begin with a comparison of Salience scores for the five samples and an evaluation of the culturally unique patterns. We then examine variation within the samples, and conclude the quantitative analysis by repeating the comparative analysis while controlling for parental education.

Table 3 presents the average Theme-and-Practice Salience Index for each theme in each of the five cultural samples. It is evident from the relatively high values for Sleep/Rest and, with one exception, for Regularity of Routines, that these are salient concerns for most mothers. Table 3 also presents the results of an Analysis of Variance for the significance of group differences. In the case of Regularity, the results indicate that the sizeable differences among the groups are unlikely to have occurred by chance and, therefore, that we can reasonably interpret those differences as real and reliable ones. The Dutch mothers' very high score on this theme reveals that they mention and elaborate Regularity of Routines much more than the other groups. The Dutch mothers also focus considerably on Rest/Sleep, but the between-group variation is smaller here, as one might expect for this topic among mothers of two-month-olds. Other significant group differences are found regarding Tranquility/Calmness (an almost uniquely Italian concern), as well as Social-Emotional Closeness (again highest in Italy, although Spain is not significantly different). The U.S. mothers stand alone in their focus on Cognitive Processing, supplemented by a more general concern with Simulation of Development, both of which involve significant between-group variation. The Spanish mothers are not uniquely high on any one of these Salience measures, although they do score highest on the Index for Social Intelligence and for Physical Experience and Well-being. Finally, the Korean mothers share both the Dutch

Table 3. Theme-Practice Salience Index in the Five Samples

Theme	Italy	Korea	Netherlands	Spain	USA	<i>F</i> (<i>df</i> = 4,93)	<i>p</i>
Cognitive Processing	0.7	4.7	0.8	5.7	15.6	9.22	<.0001
Physical Closeness	2.9	2.3	0	4.5	7.9	2.26	.07
Physical Experience and Well-Being	8.1	11.4	8.1	13.8	10.3	0.78	ns
Regularity of Routines	2.2	25.3	43.6	17.5	15.4	11.77	<.0001
Sleep/Rest	22.9	37.1	30.9	27.5	26.7	1.07	ns
Social Awareness and Intelligence	2.4	3.8	0.4	5.9	0.4	2.11	.08
Social-emotional Closeness	20.2	3.5	7.9	18.9	3.6	7.82	<.0001
Stimulation of Development	7.4	11.7	1.3	0.4	16.4	6.25	.0002
Tranquility/Calm	33.2	0.2	6.7	5.7	3.7	29.74	<.0001

focus on Regularity of Routines and the U.S. emphasis on Stimulation of Development. (Although all these measures have somewhat skewed distributions, re-analysis using a non-parametric medians test yielded identical conclusions, except that the two marginal results in Table 3—concerning Physical Closeness and Social Intelligence—were shown to be highly significant, $p < .001$.)

Overall, these patterns are distinctive enough that a Discriminant Function Analysis assigns 87 percent of the individual cases to their correct cultural group, using only the nine Theme-and-Practice Salience scores. Of the 13 errors, five were Korean mothers incorrectly assigned to Holland (four) or Spain (one); three were U.S. mothers incorrectly assigned to Holland (two) or Korea (one); two were Dutch classified with the Korean (one) and U.S. mothers (one); one was Spanish classified with the Dutch; and one Italian and one Spanish mother whose assignments were indeterminate.

Distinctiveness from other groups, however, does not imply uniformity within the culture, and as Wallace (1961) and others have pointed out, the organization of diversity with a cultural group is itself a cultural phenomenon. Although the present samples are chosen to represent a particular cultural community within their larger nation-state, and as such are seen to be distinctly different from the other samples, it nevertheless remains worthwhile to search for variation in ethnotheories within each sample as it might be related to background variables such as parental education. In the present case, we find significant associations between parental education and Theme-and-Practice Salience Index almost exclusively in the United States (the one exception: in Italy, higher paternal education is associated with less emphasis on Social Intelligence). In the U.S. sample, higher maternal education is associated with significantly greater emphasis on Stimulation of Development ($r = .75, p < .001$) and Physical Experience and Well-being ($r = .45, p = .05$), and significantly less emphasis on Physical Closeness and Sleep/Rest ($r = -.54$ and $-.50, p < .03$). Correlations with paternal education are similar. It is noteworthy, however, that these instances of variation related to maternal education do *not* influence correct group assignment by the discriminant function described above: correct or incorrect assignment in the U.S. sample is unrelated to maternal education.

As Table 1 indicates, the samples differ in average years of mothers' and fathers' education; these differences have little influence, however, on the variation in Theme-and-Practice Salience as displayed in Table 3. The Analysis of Variance was repeated with maternal (and separately, paternal) education as a covariate control. Maternal education proved a significant factor for only two of the nine Salience measures (Cognitive Development and Stimulation of Development), and even there the sample differences remained significant or marginally so ($p = .002$ and $.07$, respectively). Similar results were found in relation to paternal education.

Cultural Models and Developmental Agendas

With the confidence in the reliability of these group differences, based on the statistical comparisons above, we now turn our attention to the patterns found in mothers' narratives concerning their infant care practices and the meanings they attach to them.

The U.S. Mothers: Stimulation of development through an environment rich in objects and sensory input

The most salient themes for the American mothers were Stimulation of Development, and, relatedly, Cognitive Processing. Together, these two themes capture these mothers' concern with getting their babies off to the best possible start in maximizing their potential as actively thinking persons, a concern underlined by popular promotion of the importance of early brain development. The theme of stimulation encompassed all domains of development, cognitive, socio-emotional, and physical-motor. Cognitive and sensory development seemed to be the key concerns. The most common practices for promoting cognitive and sensory development were the use of toys, or devices such as gyms or arches containing hanging toys which the baby could kick at or view overhead.

. . . I do try to at least put him in the bouncy, all of these things during the day, the bouncer, you know, to see the little fishes go around and to get the vibration, the mat, just to get some hand-eye coordination stuff going . . .

Somebody got us a video. It's Baby Einstein. It works a lot with colors and music and just stimulating, so we play that for him. Not every day, but almost every day. Just, there's a whole different range of things. One of them is colors. One is language. The other one is just, you know, shapes and . . . It's stimulating to him. We try to stimulate him in some way.

Providing a variety of sensory experiences was a key theme within the broader theme of stimulation. One younger mother, who brought her son to the university child care center, was well versed in the various types of sensory stimulation offered to him throughout the day. She explained:

. . . there are five areas in the room . . . for different areas of development . . . sensory and cognitive. So . . . for a sensory experience, they might put him in a sensory table that has cornmeal, and musical instruments, and lay him on a Boppy and . . . if he's moving around

and stuff, he can feel that cornmeal or . . . they might have a mat where there's like, um, a part where toys are hanging . . . so babies get moved around throughout the day.

These mothers perceived their babies as needing stimulation; as one mother said:

. . . I think he needs to be warm, to be fed, to be clean, dry, that kind of thing, but I also think he definitely needs some stimulation. There are times when he is in a chair and we're not paying attention to him or, you know . . . He needs some stimulation, something of interest to look at, something to, you know, just for him to play with, or . . . like now, he's sucking his hands. And now he's getting to the stage where he's beginning to look at his hands and see things, so he can kind of occupy himself, but just something...

The mothers' perception of the importance of early stimulation was reinforced by the messages they were receiving from pediatricians, books, and other "expert" sources. As one mother explained:

I definitely try and do some introducing her to the toys and having her like, just in the past week and a half I brought out the little gym that goes above her so she can start batting at some rattles and she is starting to kind of figure out, but you know her hands are doing that . . . um, so yeah, making sure, I try and read up on you know what a two month old should be doing, what a three month old should be doing, so I can make sure that I do some activities that are helping her develop those skills and things that she needs to do . . . some stimulation where she can start focusing on things, but not over-stimulation 'cause I can see that really, you know, makes her crazy.

Another mother reflected on the current media blitz about early brain development:

You hear about studies of brain development and having the brain make certain connections at certain points so early on, and if they're not exposed to music or things like that, that certain parts of their brain won't develop as well . . . things in my baby magazines that they give you in the OB/GYN office, books that you buy that tell you how to raise your kids. Experts, I guess.

Current expert advice from pediatricians, books and daycare providers also made clear to these mothers the necessity of establishing a regular routine of eating and sleeping, although not all the mothers were equally convinced. All the mothers in the U.S. sample talked about the theme of regularity of routines, and most mothers talked about trying to get their babies on a regular schedule, but they had differing reasons for doing so. For some, the establishment of a regular schedule for the baby was an important goal in and of itself. For others, however, regular routines were a developmental achievement of the baby. As one mother noted with evident pride:

. . . it's very routine, her day now. She doesn't get up at six anymore, now she's up at seven, by 7:15 she's ready for the food and then a diaper and then she sleeps, so she's much more structured and she just kind of fell into that, I didn't have to do a whole lot to get her organized. She's a pretty organized baby.

Part of the rationale for putting babies on a regular schedule was to benefit not only the baby, but other members of the family as well. Typically, mothers who had other children talked about needing to coordinate the baby's schedule with that of the older siblings.

Well, she needs sleep, especially in the afternoon or else she will get really cranky and tired. And, plus, I need some time just to get some things done without worrying about her being awake. I need to have some time in the crib for her so I can accomplish some things around here.

Relatedly, another mother expressed appreciation for her baby's ability to adapt to life in a busy household:

She is easy-going, she doesn't get upset over much of anything. All the activity around her doesn't bother her. She is not fussy. She doesn't wake up.. She doesn't get woken up easily by every little noise. She can just kind of roll with the flow. She can sleep through the activity . . . You know, she fits in really well.

As indicated by the mothers quoted above, the key element in a regular daily routine for babies was establishing a sleep schedule coordinated with the parents' own needs. Thus, many of the same practices were associated with both regularity and sleep or rest: feeding (especially breastfeeding), putting the baby to bed in a quiet place, decreasing environmental stimulation (by turning down the lights, for example), being physically close to the baby, and co-sleeping. Despite the press toward establishing a regular schedule for the baby, some mothers in the U.S. sample spoke of *not* yet worrying about this, or establishing regularity in only one type of activity such as a daily outing, a regular bath, or a special nighttime massage.

Closeness to the baby—physical and, to a lesser extent, social-emotional—was mentioned less frequently, but the U.S. mothers had strong feelings about its importance for the baby's sense of well-being. The theme of Social-Emotional Closeness, and relatedly Physical Closeness, was sometimes presented as a counterpoint to the press towards achievement of a regular schedule. The idea of communicating love effectively to the baby, so the baby would *know* he or she was loved, was at the core of these parents' statements relating to emotional closeness. As one mother put it:

Right now, at his age, I try to hold him as much as I can, and I have Michael hold him as much as he can, and I have Tony give him kisses because I feel that even at this young age, we're instilling love in him, and he knows that we love him, and I don't want him to ever think that he's not loved. And so I feel, at this point, the best thing we can do for him is to shower him with love, and pick him up when he cries, and...I mean, we still let him cry, don't get me wrong, we don't pick him up the second he cries, but I think he's starting to know that we're here and we'll never leave him.

In summary, the theme of Cognitive Processing is interwoven with all the other themes, as parents seemed to conceptualize their young infants as thinking persons capable of learning a variety of things about their environments and organizing their behavior accordingly. The challenge in this regard was to balance the developmental agenda of rapid learning with the baby's tolerance for stimulation - to push stimulation to the maximum without going over the edge into dysregulation of basic state control. Nevertheless, these mothers seemed to perceive their babies as generally adaptable, resilient beings who could tolerate a certain amount of activity and inconsistency in their environments. Thus, mothers' concerns about regularity of routines

and sleep or rest seemed to be focused as much on the needs of the family as on the perceived needs of the baby.

*The Dutch Mothers: The development of self-regulation
through a regular and restful environment of daily life*

The themes of Regularity and of Sleep/Rest dominate much of the interviews with the Dutch mothers. The two themes are closely intertwined, as rest and regularity are the two main pillars of the Dutch “three R’s” of infant care (Super et al., 1996). It is apparent from the present interviews that the Dutch mothers (and fathers), at least in this community, were highly attentive to the development of regular sleep routines starting in early infancy. Although most of the mothers in our sample started off breastfeeding their babies, bottle feeding was preferred by some after a few weeks as it allowed parents to know exactly how much food the baby was getting, and therefore how long the baby might be able to wait until the next feeding. Putting the baby in a quiet place such as his own bed or baby carriage was also seen as the key to ensuring good sleep patterns:

Mother: We try to give feedings at the same time, and recently we also have started putting him in his own bed for naps during the day.

Father: Not here in the playpen any more, there’s no point in that.

Mother: So when I’m at home, I try to make sure that he goes in his own crib, his own bed (upstairs). Not down here any more, but just in his own bed and that way it goes better. Then he also sleeps—otherwise he just has short “rabbit-naps” because he doesn’t sleep very much during the day and now he sleeps longer in his own bed. . . . Just nicely in his own bed, and then I don’t just sit around! I’m busy doing things, but only if he’s in his own bed.

Mothers were closely attuned to signs that the baby was tired and used a variety of practices to help the baby sleep. As one mother recounted:

(I can tell when he’s tired because) then he fusses, or he just goes to sleep in my arms, or I put him in the baby carriage or his own little bed, and then he usually goes to sleep. And often with his pacifier, then it goes well, he goes to sleep more quickly.

When there was a conflict between the baby’s need for sleep and a regular schedule, sleep seemed most important to these mothers. A familiar story was told by one mother:

So, for example, today he really slept a lot—probably he needed that. So, that’s great, I just let him . . . He slept nicely almost all morning and all afternoon. So, great, if he needs that, then I won’t say anything against it. And so the feedings follow that: if he comes around, then he comes, and if he doesn’t come I just let him sleep nicely.

These mothers seemed to have a clear script in mind for how the day was divided up, with blocks of sleep alternating with particular activities in a regular, predictable pattern of time and locations. One mother described how she arranged the day’s rou-

tine for her baby, together with her toddler and herself in terms of a regular schedule of activities, each marked by determined locations within or outside the house:

Mother: Well, the day really begins at around 9:30. Then he has a bath, he gets a feeding and then he goes downstairs and then he and Peter (older brother) and I are all set. And then either Peter has to have something to eat or he already ate, that depends a little, but then Luke (baby) is downstairs in any case, and then we have something to eat, then we take the dog out and then we go shopping or we go to Grandma's or . . . in any case, we take the dog out and then, depending on the weather, we might go look at the ducks (in the park), and feed them. At about 11:30 Peter goes to bed and then I try to have Luke do that also. At 12:00 or 12:30 I change his diaper or I feed him, so both of them can pack in a couple of hours.

Interviewer: So does he sleep in his own bed upstairs?

Mother: Yes, both of them sleep upstairs. Because down here, if I'm vacuuming or whatever, you know. And then they wake up again, it depends, sometimes it's Peter before Luke, sometimes Luke before Peter. But anyway, so, at about 3:00 all three of us are downstairs. And then we take the dog out again, we take a little walk, or play here with other children. . . . but Luke is always here with us so I put him in the baby carriage. And then at about 4:00 or 4:30 we usually are home again, and then I put him in his playpen or bouncy seat. And then I try to do something about getting dinner ready, but it doesn't always work out.

As in the above example, taking the baby out for a walk in the baby carriage was an important part of the day for many of the Dutch mothers, and it was associated with several themes including regularity, sleep, tranquility, stimulation of development, and physical well-being. The organization of the villages where these mothers lived, with their convenient sidewalks and bicycle paths along every street, plus the small scale of the towns themselves, made it easy to walk into the town center to shop or to a nearby park. The streets tended to be full of life, with pedestrians, cyclists, weekly outdoor markets, and on weekends even a marching band. Quiet neighborhoods lay just outside the town center, and these were also pleasant places to go for a stroll. As one mother said:

Now, I have the idea that it's healthy to be outside and he really likes it . . . also when he's restless like yesterday evening . . . and then I just go about a block with him . . . and then often he just goes to sleep.

Another mother summarized why she thought taking the baby outside was important:

Ya, we are all outside a lot. Ya, it's really nice outside. It's beautiful weather and it's so easy to go outside and take him along, and now he sees more things, and he sits so nicely looking at the trees, and ya, it's just nice to see.

In contrast to the U.S. mothers, the Dutch mothers did not seem to be concerned about stimulating their babies' development at this age: "playing" with the baby generally meant playful interactions including singing and talking rather than playing with toys. One mother described her ideas about activities with her baby:

It's not that I take him to baby swimming lessons, but we have little outings with my husband, the three of us go out and have a nice time. When he's had his bath, I give him a little massage with lotion. You know, I do what he enjoys. Or I read books with him, or he

likes pictures, showing him pictures, that kind of thing. . . . You notice that he likes it, and it makes him calm.

When pressed by the interviewer about whether she did anything to stimulate the baby's cognitive development in particular, this mother elaborated:

Now, you see very well, you could naturally just leave him lying down all day, but you can also stimulate him, so he sits a little bit, so he's more active. We did that with Ana (older sister), and it worked well, and I notice that Jan isn't really lazy or anything, that he likes to sit if you hold him in your arms. . . I think it's nice for a baby just to be near you. And that a baby is not just left lying there."

Implicit in much of the Dutch mothers' talk about their babies' daily routines was a concept of the baby as taking its place in the midst of a larger social world of family and community, even while remaining somewhat separated by being placed in his or her own designated "container" such as a playpen, baby carriage, bouncy seat, or even a blanket on the couch. The themes of Social-Emotional and Physical Closeness were hardly expressed in these mothers' descriptions, even though it is clear that the Dutch mothers spent a lot of time with their babies and were highly attentive to their needs. Rather, the Dutch mothers' cultural models centered around the development of self-regulation through creating regularity in the environment of daily life, with special emphasis on the importance of getting plenty of sleep. According to this developmental agenda, providing structure and regulating the amount of stimulation that the baby received were primary responsibilities of good parenting. Sleep was seen as an inherently pleasurable activity; thus, napping in the baby carriage while out on a walk was considered a pleasant experience rather than a missed opportunity for stimulation. It is important to note that the Dutch emphasis on the importance of sleep was not colored by the mothers' needs for time to "get something done" as in the U.S. sample. At the same time, it is evident that these mothers, by their own report, made fewer demands on themselves for entertaining or "stimulating" their babies than did the American mothers.

The style of parenting evoked in the Dutch mothers' narratives is more distal than proximal, with only occasional episodes of close physical contact and play. Babies were expected to regulate their own state of arousal while awake with little immediate support from mothers beyond appropriate feeding and basic physical care; fussing, in this context, was interpreted as a sign of tiredness rather than a need for social stimulation. In this "horticultural model" of childcare, parents seemed to see themselves as taking care of the baby by controlling the environment and monitoring the baby's behavior within the environmental array of different kinds of experience.

The Italian mothers: Supporting development through emotional closeness

Among the different themes emerging from Italian mothers' interviews, the most salient included Tranquility/Calmness, Sleep/Rest, and Social-Emotional Closeness.

These aspects were considered particularly important for healthy development and may be viewed as an expression of parents' sensitivity to the baby's need for emotional balance. The emphasis on sleep, tranquility, and calmness reflected not only a concern about the infants' health and well-being, but also mothers' personal need for rest:

Well, actually there is nothing more I wish, because you see, when they ask me if she is a good or a bad baby, I always answer that we are lucky, she is not a bad baby for sure . . . but at the same time she is not like some people say, "My baby just eats and sleeps!" and maybe it wouldn't be right either. . . . So I'm not asking anything else, just maybe I wish she fell asleep earlier at night, because . . . even if she sleeps all through the night and we are really lucky, we have to wait to feed her until 1:30 or 2 am after a long day, sometimes we are really exhausted . . . It may happen that in the afternoon, if she sleeps, I manage to take a rest for half an hour, but not three hours, that's for sure . . .

In contrast to the Dutch mothers, the majority of mothers in the Italian sample did not expect their babies to self-regulate their state of arousal; rather, they tended to accommodate the infant's inborn sleeping and feeding schedules without imposing any rules, since "babies learn to regulate themselves." One mother emphatically rejected the idea of scheduling her breast-feedings:

No, absolutely not—no scheduling with this one. With the other one I did . . . Because with the bottle you give him 200 ml at two o'clock, so you can't give him 100 ml at three . . . It's completely different, in my opinion. When you breastfeed, you not only give your milk, but many more things so you can't refuse it—it's not that you don't want to, it's just unthinkable, it's as if your child said, "Mummy, give me a kiss," and you said, "Not now, Sweetie, at three o'clock!"

Common practices used to promote infant sleep were physical proximity (e.g., rocking or holding), a quiet environment, decreased stimulation, breastfeeding, and giving a pacifier, but also activities such as taking a walk, visiting other people, or giving the baby a bath. Similarly, tranquility and calmness were achieved through the use of strategies such as breastfeeding, bathing, decreased stimulation, giving a pacifier, playing music, and taking the baby to a social place (e.g., grandparents' house). The calming effect of social relationships is well described by this mother:

He is a boy who needs company, he really likes having other people around. For example, the other day some friends came to visit us, and he was in his infant seat. Just hearing us talk made him somehow feel involved, and this relaxed him . . . sometimes he even falls asleep! Unless people speak loudly, he calms down because he feels that he is in a relaxing, serene environment.

In case of infant cry or distress, most mothers reported that they picked up their babies immediately to avoid excessive arousal, although in some cases they preferred to use a pacifier or to respond to the baby's crying with alternative soothing strategies, such as distraction and play. According to these mothers, a necessary condition for infants' emotional well-being is a serene atmosphere in the home environment, since babies need to "feel the love, the warmth of the person who is close to them, and feel that the mother is relaxed . . . because if there is tension around them, babies feel it, even if they are so little." As one mother stated:

Well, I think she's good-natured . . . As you can see she is a calm baby, serene, and sociable, because I see she likes being with everyone. For example, yesterday I was out with her to visit a neighboring family, and the woman asked me if she could hold her. I said "Yes" even if I was a bit jealous . . . I'm the mother, you understand . . . but she stayed calm in her arms, and looked around the house: she was feeling good . . . She likes looking around, even if she can't see yet, but she likes it . . . She likes drawing people's attention, because when people talk to her, smile at her, if she hears a voice, she starts smiling.

Another recurrent theme emerging from the interviews was Social-Emotional Closeness, defined as the developing infant's ability to form significant affective relationships with others—both inside and outside the family. Specifically, mothers provided their babies with a socially rich environment to stimulate interaction and emotional experiences:

In my opinion he is a demanding little boy, I mean he wants to see, to do things. I don't think he likes being alone, at least now, maybe because he gets bored . . . and also because he is used to having me or other people around talking to him: aunt, grandpa or this woman who takes care of my father. There's always somebody talking to him, perhaps he's more used to seeing faces than to playing. . . . He has so much fun when somebody talks to him, puts him on the couch, plays with him, or on his bed. . . . When he's in the mood, he has more fun than with his toys!

The formation of social relationships was encouraged through a number of practices occurring on a daily basis, such as taking the baby on social outings, talking to baby, just being with him/her, physical proximity, playing/giving a toy, caressing, and including the baby in the family's routines. From this perspective, the Italian mothers' conception of infant stimulation may be considered as an extension of the developmental theme of Social-Emotional Closeness, as it was generally defined in terms of the promotion of activities involving social contact (e.g., taking to social place) or verbal communication (e.g., talking to baby). As one mother described it:

Either in the late morning or in the early afternoon we spend time outside, and when I come back it's almost time to nurse her . . . I would actually stay half an hour longer, also because it is good for her, too, but actually at that time I come home, she is hungry and I feed her. We just go out for a walk or to visit someone, my parents, for example, who live nearby . . . when she sees a face she has never seen before, she looks in such a way . . . When she was little she just looked, without really seeing people, but now you can see she looks at people she has never seen before in a different way.

The importance of social intelligence and emotional experience are closely related to these themes and support the idea of a cultural model centered on the infant's ability to build significant relationships from the opening months of life. Again, common practices included taking the baby to a social place, just being with the baby, and talking to him/her. According to most mothers, this pattern of caretaking behaviors makes babies feel their mothers' presence, and enhances infants' understanding of ongoing situations through their participation in everyday activities:

I don't think such a little baby can be left alone . . . he knows when he is alone, because he doesn't hear our voices anymore . . . for example in the morning, when he is here and I'm

in the other rooms doing the house chores, he wakes up, maybe he hears the music, but if he can't hear my voice he starts crying because he feels alone . . . He really needs to hear my voice, so I talk to him and explain what I am doing.

Finally, several mothers emphasized physical closeness and security as two relevant aspects of infant development that may serve to enhance the developing attachment relationship between the baby and his/her primary caregiver. In particular, parental behaviors involving proximity (e.g., holding, cuddling, kissing) often occurred during specific routines (e.g., bath, change of diaper) and were described as a "special time" for both mother and baby:

There is this special moment when I leave him on the changing table without his diaper, usually in the evenings . . . I talk to him, sing songs, tickle him to make him laugh, and he always responds! We both really enjoy it. Sometimes, when he is a bit fussy, I also massage him and he calms down.

The thematic analysis of Italian mothers' narratives revealed that the most salient parental ethnotheories focused on infant sleep, rest, and tranquility as well as social-emotional closeness. On one hand, mothers emphasized the importance of providing a serene and harmonious home environment to foster their babies' sense of security and emotional well-being; on the other hand, they promoted social interaction and emotional experiences with family members and others as a means to form close relationships and stimulate their babies' development. This pattern of findings reflects parents' sensitivity to the baby's need for emotional balance and supports a conception of the infant as an emotional being who is exposed to a socially rich environment and encouraged to interact with familiar and unfamiliar people from the earliest months of life. Specifically, emotional closeness defines infant development in terms of expressiveness and liveliness (the "*vivace*" [literally, lively] child), closeness to other people (the "sociable" child), and emotional security (the "serene" child). In this cultural context, parental stimulation of development acquires a specific meaning. In particular, mothers tended to describe their ideas about stimulation not so much in terms of cognitive development, but rather as a means to convey emotional closeness. For example, most babies were provided the opportunity to participate in social situations/activities as well as communication routines, and were frequently exposed to a number of different people from the earliest months of life (e.g., grandparents, relatives, neighbors). Overall, a composite picture emerges in which social-emotional closeness and emotional security form the core developmental agenda for early infant development, and are accomplished by mothers' active encouragement to establish relationships with other people (i.e., children and adults) as well as through the adoption of a particular parenting style characterized by high levels of physical affection, intimacy, and face-to-face interactions.

The Spanish mothers: Promotion of health and well-being through attention to the baby's physical and emotional needs

The Spanish mothers' cultural models of the baby and of parenting are distinctive in their central focus on the baby as a physical being, in combination with *both* a reg-

ular schedule *and* intimate, proximal and affectionate style of caretaking. In this sense, the Spanish mothers shared some common themes with the Dutch mothers and others with the Italian mothers. The combination of these themes, and their particular constellation of associated practices, makes the Spanish mothers' cultural models both recognizable and unique within the larger group.

All the Spanish mothers shared a common assumption, derived from both personal and professional sources, that a regular schedule was important for babies, and they were closely attuned to their babies' patterns of sleep and wakefulness. The following mother's description of her baby's feeding schedule is typical:

She has six or seven feedings a day. She eats every four hours, between three and four hours. And although it happens that sometimes she can last four and a half hours, like at night she eats every six hours, she makes up for that by sometimes eating every three hours . . .

The themes of sleep and rest, and relatedly tranquility or calmness, were also emphasized by the Spanish mothers, who described a number of practices to get their babies to sleep, especially singing or playing music, breastfeeding, holding the baby and caressing or massaging the baby's body. Most of the mothers did not expect that their babies would be able to get to sleep on their own:

When I put her to bed it's that she's already completely asleep, and she wakes up when she's put down in her cradle so I rock it a little, I sing some more or I pick her up so she'll fall asleep again.

. . . I rock him, I caress him, I try also at times when he seems very excited if it's daytime, I try to darken his room a little bit and it seems like he calms down a bit, but when he's tired it doesn't matter if there's light, he falls asleep.

The themes of sleep and rest, and of tranquility, were closely interwoven with themes of Social-Emotional and Physical Closeness. Even while asleep, according to some mothers, babies might prefer to be near other people:

. . . she doesn't like to be alone in the dark in her room, so normally I bring her in here to the living room, so there's noise and it seems she likes to sleep with some noise.

In general, babies' environments of care were described in terms of relationships with people, not mediated by objects: mothers virtually never mentioned giving toys or reading to the baby, as they were not considered old enough for that. Rather, mothers referred to simply playing with their babies, occasionally describing such play in terms of playful interaction, talking, or manipulating the baby's body. Babies were not expected to entertain themselves for more than a few moments. In answer to a question by the interviewer, "Does she entertain herself when she's alone?" one mother responded:

Yes, she entertains herself, but what happens is that she demands, she asks you to say something to her, she is looking for you with her gaze, you notice that she appreciates it and seeks it.

Although much of the baby's day was taken up with sleep, feedings and routine physical care, according to these mothers, the focus of the day was generally taking the baby out for a walk, going on errands, or going to visit relatives. The daily outing

to “the street”—often described as lasting several hours of the “afternoon” up to 8:00 or 9:00 PM—was recommended by pediatricians, by relatives, “by everyone” as healthy for not only the baby but also the mother. Such outings provided relief from being “inside four walls,” and an opportunity for the baby’s enjoyment of the physical, social and cognitive stimulation of the outside world. As one mother explained:

I believe that it is important for the baby to go out to get some fresh air and sunshine and . . . so that she relates to her environment. . . . There are some things that she doesn’t see in the house. The trees, the branches, she looks at them and she likes looking at the children in the street . . . All these are different kinds of stimulation that she doesn’t see in the house.

Taking the baby out was also important for training the baby to interact with new people, even if the baby found it challenging:

I like the fact that she meets many different people who touch her and hold her, you know? For example when we came back recently from a trip, we were there for 10 days, it bothered her more that others were holding her and before she wasn’t like that, she was more adaptable, with her aunt, her grandmother, whoever, our friends, and it didn’t bother her at all.

The practices of physical care, a regular schedule of eating and sleep, affection and closeness with other family members, and the daily walk formed a seamless whole whose central theme was the baby’s sense of well-being, as illustrated by these mothers’ responses to the question “What is the most important thing you can do for your baby?”:

Well, what I am doing, right? I try to give him experiences, I try above all to give him a lot of affection, and that he eats, that he sleeps, that he’s clean, that he has a relationship with his brother, with his father, that he goes out, gets some sunshine . . . that he moves, when I bathe him I exercise his little legs, I talk to him a lot . . .

Give her security, feed her, keep her clean, take her out on walks, that is, so she develops from the beginning as a secure person. So that she is not fearful.

In summary, the Spanish mothers’ themes and practices centered on promotion of health and well-being through attentive care focused on the baby’s physical and social needs. Establishing a regular schedule played a part in this developmental agenda, as it was seen as an important dimension of nurturance. The style of care described by these mothers required their own close presence, including helping the baby make the transition from wake to sleep, as well as assuring the baby that he or she was not alone. The mothers themselves appeared to be surrounded by a comforting network of relatives and friends to support the healthy development of their baby as the newest member of the family and community.

The Korean mothers: Protecting and educating the baby

The most salient themes from Korean mothers’ interviews were the Regularity of Routines, Sleep/Rest, Stimulation of Development, and Physical Well-being. In this regard, the Korean mothers presented a unique mix of cultural themes and reported

practices that are both similar to—and different from—themes from each of the other cultural samples. The Korean mothers seemed to believe that babies fix their own schedule of feeding and sleeping as they “grow up;” therefore, they did not want to force their babies to follow a mother-imposed schedule, but instead tried to be sensitive to the baby’s needs:

Her routine was very irregular before . . . There was no cycle at all. Nowadays there are sleeping times, feeding times . . . I don’t like them necessarily (laugh). Anyway, she has patterns. I cannot see that she is growing because I see her everyday. But when I notice that she has a pattern, I think she has grown up some.

Most mothers in the Korean samples mentioned regularity of routines in terms of their feeding schedule. Many mothers thought babies had preferences and believed it was the mother’s job to do things as the babies wanted:

I do not calculate the amount or intervals of feeding. I feed him when he wants to and as much as he wants to. He does not eat unless he really wants to. Also he does not like certain feeding postures.

One of the reasons why the Korean mothers could follow the baby’s every desire at this time is the existence of extra family support. In Korean culture, postpartum mothers are typically looked after by their mother or mother-in-law for at least a month. In fact, many mothers in our sample were living with their parents or in-laws temporarily. The grandmothers took care of the household chores and other work so the new mother could totally concentrate on her recovery and her new baby.

The second major theme in the Korean interviews was sleep and rest. This theme was very much involved with practices such as co-sleeping and physical proximity. The Korean traditional custom of sleeping is on a heated floor. Even though many Koreans use beds nowadays, Korean mothers who are going through the postpartum period often sleep on a spacious mat on a heated floor to recover from childbirth, so it is very natural for them to sleep with their babies. None of the babies in the sample slept alone in a separate bedroom. If the mother was not sleeping with the baby, the grandmother or father was. This proximal style of care was evoked in a mother’s description of how her baby went to sleep:

My baby does not fall asleep lying down. I have to walk around or sit in a chair holding her in my arms. When she goes into sleep, I always sleep next to her—that way she can sleep well.

Many of the Korean mothers put a lot of effort into putting the baby to sleep. The process could be tiring and time-consuming, as one mother described:

My baby has to be worked on . . . for about thirty minutes. I can put her to sleep in thirty minutes, but it takes longer to leave her. My baby prefers to be held vertically rather than horizontally. She likes to put her arms around my shoulder. I hold her with one arm and with the other I pat her. At the same time I sing to her, then she yawns. Then she will rub her face on my shoulder and go to sleep. I hold her for a while and slowly sit down. I pat her sitting down on a sofa. I keep singing to her to make her sleep better. When she is sound asleep I put her down in the bed. If she wakes up again, I have to do this routine from the beginning all over again.

The third most important theme in the Korean mothers' interviews was stimulation of development. Like the U.S. mothers, these mothers were very much interested in the baby's development, especially cognitive development and the parent's role in it; in fact, the U.S. preoccupation with stimulation of early development seems almost trivialized by the intensive practices described by the Korean mothers. Common practices for stimulation of development were giving toys to the baby, reading books or playing CDs and tapes, as well as playing together and showing things to the babies. Related to stimulation of development was the theme of cognitive processing, as expressed by one mother:

My baby looks at new things very intensively for a long time. I think he recognizes things and he is thinking. I like it. It is his brain development. I would like to show him lots of things to help and encourage his brain development . . . I put some pictures on the wall to show him things . . . I would like to do more for him. The emotional development is also important. I have to do lots of things for him. Also I have to use good words.

According to the Korean mothers, stimulation should be started as early as possible, and should be not just simple playthings but planned early education.

There is a song I sang while he was in the womb. He seems to recognize it nowadays. When he is crying, if I sing the song he will calm down easily.

Nowadays, I play music tapes—English songs and English stories. He likes listening to tapes. I draw pictures and show him, and I talk to him showing photos.

It is a common practice for Korean mothers to avoid taking their baby outside until the baby is considered to be stabilized. This reflects a particular concern for the baby's physical well-being. Nowadays, the timing of taking the baby outside could vary widely according to the family's beliefs and weather conditions; however, traditionally Koreans thought the baby would be stabilized only after one hundred days after the birth. In traditional Korean society, visitors were not allowed in the house for up to "three seven-days" (21 days) in order to keep newborn babies and their mothers safe from outside germs in the postpartum period. Therefore, Korean mothers might tend to think they have to provide lots of stimulation for the baby since the baby is only staying in the house:

We never take the baby outside except for hospital checkups. They say we could take the baby out, and I would like to go out too. But there is yellow wind outside and maybe we should stay until the yellow wind is gone. My husband and I wanted to go to his parent's house to show the baby after "three seven-days" but his parents worried too much. They wanted to take the baby out only after the hundredth day. So we are still here staying home. . . . A few days ago, my sister came with her children. We are always staying home and that was the first time he heard the sound of other children and he was paying so much attention. He keeps looking at them and following them with his eyes.

Some mothers also described trying to stimulate the baby physically by doing some baby massage or exercises.

During a few times a day when I am playing with the baby, I stretch her legs and arms. I rub her stomach, pat her back and massage her.

When the baby wakes in the morning, I play him some English tapes. And I play with him . . . I sing to him. They say listening to human voices is good for him. I also do some exercise with him. I have an exercise video for babies so I play the tape and do exercise with him. When he goes to sleep I play English tapes, stories or songs or sometimes quiet music. That's all I do.

In sum, Korean mothers look at their babies as needing a lot of protection and motherly attention. Even the extended families joined in to make sure that the new baby and mothers get sufficient protection and support. In this context, good parenting was defined as providing everything the baby needed and in order to do that staying physically close to the baby.

Being a mom is very happy event, but at the same time I feel a heavy responsibility. I will do the best for the baby. I have to set some standards for him. I don't know how much the baby will follow . . . I think I have to be flexible. If I push him too much then it will be too stressful for the baby and for me too. So I have to learn and study about parenting. And I need to plan ahead.

In order to be good parents in Korea, the parents should stay very close to the baby, attending baby's every need and putting the parent's need second. Physical proximity, touching and physical protection are important for Korean parenting.

I think the most important thing at this stage is holding and making eye contact with the baby. Some people say it might spoil the baby if I hold him too much. But I have a different opinion. I am willing to hold him whenever he wants to be held even though it might be physically hard for me.

For the Korean mothers it was the caretakers, not the baby, who were in charge of the baby's state of arousal. There was a consistent effort to maintain a low state of arousal, for instance, avoiding crying and not letting the baby get too hungry before feeding. Even though Korean mothers try to provide stimulation for their baby's development and there is an emphasis on early education, they justify the practice as following the babies' wishes—doing what the baby likes to do. Many Korean mothers said the babies liked the stimulation the parents provided.

He likes to get stimulation of his hands . . . I discovered that he laughs when his hands are stimulated. Nowadays he watches TV . . . maybe because the screen is flashing. Also he follows my movement with his eyes. I think now he sees things clearly and listens to sounds clearly . . . I think babies like to be stimulated.

I showed him new pictures today . . . I stuck the pictures on the chest in the living room. . . . The baby was looking at the pictures for some time with full attention. The baby likes looking at the pictures. Maybe all babies are like that. But my baby surely liked looking at pictures and also he seemed to know that the pictures are changed. I pointed to them, "This is a bear, this is a fox," and he liked it.

In summary, the Korean mothers' developmental agenda was based on a cultural model of the young baby as a vulnerable being who must be protected from the dangers of the outside world for a period of time. During this time (the "one hundred days" or approximately the first three months of life), good parenting was defined in terms of sensitivity to the baby's cues. Physical proximity was a central practice, in-

cluding while the baby was asleep, and this was seen as an essential need of the baby. In this regard, the Korean mothers described themselves as somewhat similar to the Italian and Spanish mothers, but more so. Added to this cultural model, however, were expectations of early cognitive development more reminiscent of the U.S. mothers—and here also the parents were expected to be attentive and sensitive teachers who were already engaged in early pre-academic activities with their babies. Although the two main components of the developmental agenda—protection and early stimulation of cognitive development—may seem incompatible from a Western perspective, they were united for the mothers in our sample by a central concern with sensitive parenting for optimal development.

Discussion

Some of the themes identified in our interviews with the mothers in these cultural samples are already familiar through other research, including ours, as well as through the media. For example, previous research has shown that Italian parents' socialization goals include physical and emotional closeness between parent and child, exploration, physical health, and a serene home environment (Axia, Bonichini, & Moscardino, 2003; Harkness et al., 2001). Northern Italian mothers believe that sociability, liveliness, and activity are positive manifestations of their babies' health and therefore tend to appreciate these characteristics (Axia & Weisner, 2002). The Italian mothers in our sample predominantly associated stimulation with social relationships and emotional, verbal, and physical interactions, a finding that has been reported in other studies (Axia, 1999; Bornstein, Cote, & Venuti, 2001; Gandini & Edwards, 2000; Harkness et al., 2006; New, 1989).

Likewise, the American middle-class emphasis on promotion of rapid cognitive development in children has been noted by many observers including the Swiss psychologist Jean Piaget, who referred to this predilection as "the American question." Previous research by Harkness, Super, and their colleagues contrasted a focus on children's cognitive qualities by American parents with greater attention to social qualities on the part of Dutch parents (Harkness et al., 2000). The importance of rest and regularity in the Dutch cultural model of parenting has also been previously documented (Super et al., 1996). Asian parents' attention to their children's development in school-related skills has also been documented in many studies (Parmar, Harkness, & Super, 2004). Finally, the Spanish mothers' focus on helping the child's early development of social relationships is consistent with previous research indicating concern about social competence (Harkness & Super, 2005). The present study, however, is distinctive in identifying these and other cultural themes so early in infancy.

The sample differences in cultural models of the child and developmental agendas have distinct implications for cognitive, affective, and social development in infancy and beyond. It is clear from our interviews that these aspects of development were very much on the minds of the mothers in the different cultural samples. It is also evident, however, that all the mothers were equally (if not more) concerned about regulating

their baby's state of arousal. Given the breathtaking rapidity with which young infants can move through various states from peaceful sleep to full-throated crying, it seems natural that caretakers should attempt to modulate the baby's organizational state, particularly in order to avoid the highest levels of arousal. Mothers in the different samples had distinctively different cultural strategies for achieving this goal, however, and these strategies may have implications for later group tendencies in this important substrate of behavioral development. The different cultural models and practices of care described by the mothers point to four dimensions of contrast. Interestingly, the cultural samples align themselves uniquely on each one.

1) Promotion of high versus low states of arousal

A basic dimension of contrast is the extent to which cultural models of infant care generally promote high arousal in contrast to a calmer, less aroused state. On this dimension, it seems clear that the practices described by the U.S. mothers were most likely to promote high arousal, in particular through placing the baby in electronic mini-worlds full of flashing lights, sounds, and movements that provided stimulation of many senses at the same time. The U.S. mothers were also less likely, as they described it, to modify the level of noise and commotion in the baby's environment, preferring instead (with the encouragement of their pediatricians) to help the baby learn to cope with the realities of life in a busy household. At the other end of this dimension are the Korean mothers, whose protectiveness and sensitivity to the baby were expressed through maintaining a low level of sensory input, even if it might include sophisticated elements such as English-language videotapes. The Dutch, Italian, and Spanish cultural models of care also seem to imply more concern than the U.S. with avoiding over-stimulation, although they took distinctive approaches to doing so as discussed below.

2) Promotion of sleep and rest: Is there ever too much?

The promotion of rest and sleep is a separate dimension of contrast illustrated by the mothers in our samples. Here, the Dutch mothers clearly indicated the strongest commitment to sleep as essential to healthy growth and development. Sleep was seen by these mothers as more important even than eating on a regular schedule, as demonstrated by one mother quoted earlier (and in contradiction to the official national child health guidelines). Sleep was seen almost as a form of recreation by some of the Dutch mothers, who described the baby as "sleeping nicely" while out on a walk in the carriage, parked in the sunshine, or simply upstairs in bed. The U.S. mothers again provide the highest contrast, in that their concern with infant sleep seemed to be more for themselves than for the well-being of the baby. The Spanish and Italian mothers placed more emphasis on "calmness" than on sleep *per se*, with the apparent implication that sleep would take care of itself if the baby were in a supportive environment.

The Korean mothers seemed to emphasize creating a restful environment so that the baby could determine its own need for sleep.

3) Regulation of state as an individual task versus a joint project

There was marked variation across our cultural samples in the extent to which regulation of the baby's state of arousal was regarded as a developmental task to be mastered individually by the baby, in contrast to a perception that young babies need to be supported in that regard. This was particularly evident in management of the transition from wake to sleep. The Korean mothers represented one extreme in this regard, as recounted by the mother who described her lengthy process of putting the baby down to sleep. Having a person (whether the mother or another caretaker or relative) sleep next to the baby as a way to support good sleep also reinforced this cultural model of joint responsibility for the baby's state. At the other end of the continuum were the Dutch mothers, who relied more on props such as a pacifier, and on putting the baby down to sleep in a quiet, darkened room, than on their own physical support for the baby's transition to sleep. Both the Italian and Spanish mothers, in contrast, specifically talked about helping their baby get to sleep by nursing, cuddling, singing, rocking, even talking to the baby. The importance of social support for sleep was mentioned by mothers in both these samples, who mentioned that their babies seemed to sleep better knowing that others were nearby. In particular, these mothers also emphasized the importance of a tranquil, serene atmosphere in the home as an important support for the baby's sleep. Interestingly, the U.S. mothers talked relatively little about methods for getting the baby to sleep at this age.

4) Self-regulation through regularity versus contingent social support

Related to all the other dimensions of contrast, finally, is the contrast between socialization for individual self-regulation through one's own schedule versus learning self-regulation as contingent on social cues from the environment. Here, the U.S. and Dutch mothers are paired at one end of the continuum in their commitment to training the baby to attain a regular schedule (ideally one that matches the needs of the rest of the family), which then functions as its own self-regulating mechanism. This cultural model of child development corresponds to a distal style of caretaking as described by the mothers, in which the baby's daily routine is described in terms of spending certain amounts of time in various "containers" (e.g., the baby carriage, the bouncy chair) or in interaction with various kinds of toys and mechanical or electronic sources of stimulation. At the other end are the Italian, Spanish, and Korean mothers' cultural models of care, in which there is little mention of play with toys or what kind of carrier the baby is placed in; but a great deal of talk about proximal kinds of play and social interaction. In this model, the baby's physical state can dictate organization of the environment, as in the Korean mothers' attempts to be sensitive to the baby's cues of

sleepiness or hunger; but it can also be shaped by other things going on in the social environment, as in having a nap in the midst of a social gathering of the mother and her friends.

Conclusions: Developmental Agendas for the Regulation of State

Qualitative and quantitative analysis of these interviews demonstrate that mothers in the various groups hold distinctive developmental agendas; it is further evident that the differences in ethnotheories and the associated practices, as described by the mothers, have important implications for the regulation of arousal state, both in the short term and as a framework for later functioning.

Infants in the U.S. sample spend their days in an environment that encourages high levels of arousal and activity. Stimulating development through sensory and cognitive experiences that will move the baby forward is a salient theme in the U.S. mothers' narratives; relatedly, the mothers also routinely use objects (e.g., toys, videotapes) to supplement their own efforts at soothing and regulating arousal. It follows that these infants will develop a scheme for daily life, a setpoint for "normality," that includes sustained levels of high arousal that are moderated, as needed, by periods of calm engagement or rest. As the U.S. infants attain skill in self-regulation of state, one can predict that it will include substantial use of objects as moderators.

The ethnotheories and practices of the Korean mothers contrast sharply with the U.S. picture, despite a common theme of stimulating cognitive development. For the Korean mothers, maintaining a quiet calm is particularly salient, and they see this as fully their responsibility. As the Korean infants establish internal regulation of their own states, therefore, we can expect them to have a scheme that includes a lower level of arousal than would be the case for the U.S. infants. Further, given the mothers' attention to ensuring calm through personal intervention, one can predict that the Korean infants' emerging schema for self-regulation will initially center on social relationships rather than objects.

The Dutch mothers present another variation for their infants to model. Their emphasis on rest and regularity bears some similarity to the Korean focus, but they are more conscious of helping their infants to learn self-regulation of state transitions (in particular, sleep). In addition, the Dutch infants presumably establish relatively early a sense of temporal regularity concerning normal daily activity and rest, which should be sensitive to *Zeitgebers* (environmental cues for time of day, such as light and dark and regular mealtimes).

The Spanish mothers also present in these interviews a heightened awareness of regularity and rest, but is it more balanced and combined with relatively elaborated themes of physical care, including feeding, bathing, and attention to their babies' digestive patterns. Attentive physical care, plus the mandatory daily outing in the baby carriage, together represented the correct prescription for physical well-being and emotional security—both essential for an optimal state of arousal while awake.

Finally, the Italian mothers are distinctive in their focus on facilitating their infants' emotional growth and integration with a relatively large number of family members and other persons. One might expect that the babies' emerging schema for everyday life would include a greater complexity of emotional states and more rapidly changing pattern of arousal and calm when awake.

Each of the developmental agendas expressed by mothers here provides an adequate and effective framework for managing the arousal states of young infants and leading them to a more mature pattern of self-regulation. They are not identical, however, in either their momentary effect nor, one can expect, in their long-term consequences. The mothers' understandings and practices are organized by shared cultural models and, in turn, they provide a culturally shared framework for their infants' emerging behaviors. As the infants construct enduring schemes for their own patterns of arousal and attention, they accelerate their enculturation and build a basis for their future engagement in the social, emotional, and educational life of their developmental niches.

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