

Through Colombian Lenses: Ethnographic and Conventional Analyses of Maternal Care and Their Associations With Secure Base Behavior

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According to attachment theory, the quality of care plays a key role in the organization of infants' secure base behavior across contexts and cultures. Yet information about attachment relationships in a variety of cultures is scarce, and questions remain as to whether Ainsworth's conceptualization of early care quality (sensitivity; M. D. S. Ainsworth, M. C. Blehar, E. Waters, & S. Wall, 1978) is appropriate for characterizing caregiving behavior in different groups and whether culturally specific descriptions of early care are related to conventional measures of maternal sensitivity and to infants' security. In this naturalistic study of mother–infant interactions in Colombia, scores on different domains of maternal care were obtained through ethnographic methodology, and conventional Q-sort scores for maternal and infant behavior were obtained. Findings are discussed in terms of the cross-cultural generality of the sensitivity construct and the sensitivity–security link and of the relevance of naturalistic open-ended studies in different contexts.

Bowlby's (1982) and Ainsworth's (1969) theory of the infant–mother tie as a secure base relationship focuses on the role of the primary caregiver as a secure base from which an infant can explore and learn about the environment and close relationships. Bowlby (1982) hypothesized that all infants have a propensity to organize an attachment behavioral control system and to construct secure base relationships if they have been exposed to ordinary caregiving. This control system depends on biases in infants' learning abilities that Bowlby argued are part of humans' evolutionary endowment. Further, according to attachment theory, the quality of secure base relationships varies and is importantly influenced by maternal sensitivity. Thus, infants in secure base relationships characterized by fluid exchanges and smooth interactions in which their signals and communications are appropriately responded to by their caregivers are likely to be described as securely attached (e.g., Ainsworth, Bell, & Stayton, 1974; Bowlby, 1982). On the other hand, infants in relationships characterized by difficult and conflictive interactions in which their signals and communications are not responded to satisfactorily, from the infant's perspective, are likely to be described as insecure.

Recently, a debate about the cross-cultural generality of attachment theory has been revived. Rothbaum and colleagues (Rothbaum, 2002; Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000, 2001) challenged the notion that the theory can inform our understanding of close relationships across cultures. They proposed developing distinct theories for each human culture and subculture. Specifically, they questioned the cross-cultural generality of core constructs and hypotheses such as maternal sensitivity, the secure base phenomenon, the sensitivity–security link, and the implications of attachment relationships for child development, and they suggested that such notions are the product of Western ideological biases and do not apply to other cultural contexts. Rebuttals, based on both theoretical as well as empirical grounds, have been issued in response (Chao, 2001; Gjerde, 2001; Kondo-Ikemura, 2001; Posada, 2002; Posada & Jacobs, 2001; Sagi & Posada, 2002; van IJzendoorn & Sagi, 2001; Waters, 2002), but the debate is certainly far from over, for there are key issues that remain to be resolved.

This article addresses two such unresolved issues. The first one is concerned with whether Ainsworth's (Ainsworth et al., 1974; Ainsworth, Blehar, Waters, & Wall, 1978) conceptualization of quality of care (i.e., maternal sensitivity) arises inductively from descriptions of infant–mother interactions at home and is appropriate for characterizing early care in a different cultural context from the one in which it is usually studied. Specifically, we investigated, with ethnographic methodology, how early maternal care is provided in Colombia to determine whether the topography of caregiving behavior is markedly different from that of middle-class Caucasian families in the United States. The second issue is concerned with the cross-cultural generality of the sensitivity–security link. We studied the associations between culturally specific manifestations of caregiving (i.e., ethnographic descriptions of Colombian maternal early care) and the organization of infants' secure base behavior (i.e., security).

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Some of the data reported in this article were presented at the biennial meeting of the International Conference of Infant Studies in Toronto, Ontario, Canada (April 2002) and at the annual meeting of the International Society for the Study of Behavioral Development in Ottawa, Ontario, Canada (August 2002). We thank the families who participated in the study and Arnoldo Aristizabal at Javeriana University for their vital support.

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Maternal Sensitivity

A core aspect of Bowlby's and Ainsworth's theory is concerned with the role of the main caregiver as a secure base from which an infant can organize his or her behavior, derive security, explore, and learn about the environment (e.g., Ainsworth, 1969, 1991; Ainsworth et al., 1978; Bowlby, 1982, 1988; Matas, Arend, & Sroufe, 1978). In an effort to account for the different outcomes in the organization of infants' secure base behavior, Ainsworth focused on characteristics of mothers' caregiving during interactions with their babies. On the basis of her naturalistic observations of infant-mother exchanges in Uganda (Ainsworth, 1967) and Baltimore (e.g., Ainsworth et al., 1974, 1978), she proposed a conceptual model of early care that included four general characteristics of maternal behavior: sensitivity-insensitivity, acceptance-rejection, cooperation-interference, and accessibility-ignoring (e.g., Ainsworth et al., 1974, 1978). Because those characteristics were found to be highly intercorrelated, subsequent attachment research has referred to a caregiver's contributions to secure base relationships as "sensitivity."

Ainsworth's model of early care (Ainsworth et al., 1978) has served as the theoretical foundation for empirical studies investigating the factors that account for individual differences in infants' organization of secure base behavior (Thompson, 1998). In fact, most research on the associations between caregiving and attachment security has been based on Ainsworth's construct of sensitivity (De Wolff & van IJzendoorn, 1997; Thompson, 1998). Of course, the degree of similarity between Ainsworth's definition and the measures used to assess maternal sensitivity has varied from study to study, with some investigators using a conceptualization close to Ainsworth's (e.g., Grossmann, Grossmann, Spangler, Suess, & Unzner, 1985) and some others using a notion removed from the one she offered (e.g., maternal self-efficacy as defined by the mother's attribution style and mood state; Donovan & Leavitt, 1989).

To be sure, no study to date has come close to Ainsworth's Baltimore study (Ainsworth et al., 1978) as far as observations of infant-mother interactions are concerned. Specifically, Ainsworth conducted extensive and frequent observations of infant-mother dyads at home; namely, she observed them from the time the infants were 3 weeks old until they were 51-54 weeks old at intervals of 3 weeks, and her observations lasted between 3 and 4 hours each time. Most ensuing research has observed maternal behavior in contrived situations, only once, and for periods usually lasting under 60 min and has been conducted in Western industrialized countries (e.g., Canada, Germany, Holland, and the United States).

Overall, results indicate that maternal sensitivity is significantly, if moderately, related to attachment security in middle-class samples¹ (see De Wolff & van IJzendoorn, 1997, for a meta-analysis of 65 studies conducted; Thompson, 1998). Few studies have not found a significant association between the constructs (e.g., Fagot & Kavanagh, 1993; Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996). However, De Wolff and van IJzendoorn (1997) estimated that 862 studies yielding null findings would be needed to reverse the conclusion that the two variables are significantly related. Those findings are remarkable, especially considering that most studies subsequent to Ainsworth's have drastically reduced the window of observation time and thus, perhaps, the represen-

tativeness of the phenomena being observed. It is likely that the strength of Ainsworth's conceptualization of maternal care and infant secure base behavior and the association between the two found are in part due to the solid empirical grounding of her research (see Ainsworth et al., 1978).

The issue at stake here, however, is the cross-cultural generality of sensitivity as an appropriate construct for conceptualizing early care in different contexts. That is, we need to investigate and describe how early care is expressed in other contexts to determine whether Ainsworth's definition of caregiving quality (Ainsworth et al., 1978) is reproducible and applicable in those contexts and whether there are salient aspects of early care quality other than those emphasized so far by the theory. In a few words, we need to study the correspondence between culturally specific manifestations of caregiving and the construct of sensitivity as defined by attachment theory.

The Sensitivity-Security Link

Attachment researchers also suggest that the sensitivity-security association holds across different social contexts, situations, and cultures (e.g., van IJzendoorn & Sagi, 1999). Unfortunately, research on these issues is scant, and the hypothesis has not been thoroughly tested. Findings from the limited empirical studies conducted with infant-mother samples from populations other than those of middle-class Western industrialized countries seem, however, to provide initial support for the theory. For example, Egeland and Farber (1984), Posada et al. (1999), Vaughn, Egeland, Sroufe, and Waters (1979), and Ward and Carlson (1995) have studied the sensitivity-security hypothesis in different social contexts (i.e., economically lower class sectors of the population), and some studies have been conducted in cultures other than those of Western industrialized countries, for instance, in Chile (Valenzuela, 1990, 1997), Colombia (Posada et al., 1999, 2002), and Japan (Vereijken, Riksen-Walraven, & Kondo-Ikemura, 1997). Results reported in those studies lend support to the hypothesis. On the other hand, Nakagawa, Lamb, and Miyake (1992) reported no significant associations between the constructs in Japan.

More research, however, is needed to clarify the cross-cultural generality of the sensitivity-security link. Specifically, we need to investigate the associations between culturally specific manifestations of caregiving, derived from indigenous descriptions, and the organization of children's secure base behavior when interacting with their caregivers. It has been argued (Rothbaum et al., 2000) that if cultural manifestations of early care are allowed, they may not be related to children's security as predicted by the theory.

It is unfortunate that the cross-cultural generality of the sensitivity-security link has been placed in opposition to culture-specific manifestations of infant-mother relationships. To be clear, the fact that the association between sensitivity and security appears to hold in different cultures, in the few studies conducted so far, is by no means an indication that there are not context-related or culture-specific differences in the manner in which maternal and

¹ It is important to note that even modest correlations, obtained at one point in time, should not be dismissed out of hand in a context in which they can be projected through a myriad of interactions, for they can result in very different patterns of experience for infants of sensitive and insensitive mothers (see Abelson, 1985).

child behaviors are exhibited. Caregiving behavior, as well as child behavior, is context sensitive. Thus, Posada and colleagues (1999) reported differences in the way maternal sensitivity was expressed in ordinary and emergency situations. In that study, sensitive mothers of sick children exhibited more physical contact and increased monitoring of the child's environment, making sure the child was comfortable, than did sensitive mothers of healthy children. The specific context and circumstances surrounding the child–mother dyad influence the specific behavior exhibited. From an infant's perspective, what matters is that his or her signals are responded to appropriately. Issues of function should not be confounded with issues of expression. The sensitivity–security link may hold across contexts and cultures, while, simultaneously, differences in the way caregivers' sensitivity is behaviorally expressed may exist. Different manifestations of sensitive care do not necessarily challenge the generality of the sensitivity–security link; neither are they inconsequential, because their study is essential for mapping out and understanding different alternatives in implementing early care. It is worth noting here that the key question is not whether maternal sensitivity scores and/or infants' attachment classifications are similar from culture to culture; what is central to the theory is that the quality of maternal care (sensitivity) is significantly associated with infant security.

A Methodological Approach

Finally, this study addresses a methodological concern in cross-cultural studies of infant–mother attachment relationships. Specifically, the practice of using assessment tools that were developed in middle-class Caucasian samples in Western industrialized countries has been questioned (Rothbaum, 2002). The core of the argument states that in order to investigate specific cultural manifestations of early care, one needs to use methodologies that allow for the detection of such manifestations. Using preestablished instruments from a different culture may obstruct the researchers' ability to describe caregiving characteristics unique to other contexts. We agree, and with this in mind, we used an ethnographic methodology to observe and describe maternal behavior during child–mother interactions and ultimately to characterize maternal early care in the Colombian sample studied.

Moreover, we argue that the validity of established assessment tools needs to be investigated and worked out empirically if such tools are to be used in different cultures and contexts. This is necessary to make sure that the information gathered with such methodologies supports the kind of interpretations such information does in contexts where those methods were developed. Data gathered without validity checks for the research tools used may provide an indication of how the phenomena under study behave, but information obtained that way cannot be conclusive until we make sure it is culturally meaningful (i.e., valid). On the other hand, failure to provide empirical support for theoretically predicted relations in different cultures when using nonvalidated instruments or procedures might index a methodological rather than a theoretical problem.

In this study, we checked the validity of Q-sort assessments of both maternal and child behavior with indigenous descriptions of maternal care in Colombia. We used ethnographic methodology as an essential component of our research strategy. Ethnographic methodology's main aim is to describe and understand the way a

phenomenon is from the point of view or perspective of those in the context or culture in which the study takes place (i.e., the native point of view; Spradley, 1980). It allows researchers to describe and understand the configuration of a phenomenon in an inductive manner (building theory from the ground up; Spradley, 1980; Strauss, 1987). Thus, rather than using specific theoretically predetermined conceptualizations and assessment strategies in a study's initial phases, ethnographers embark in a broad exploratory step to map the phenomenon of interest from the ground up (for a more comprehensive description of ethnographic research, see Spradley, 1980). In our case, the first step was that of making open-ended observations of infant–mother interactions at home during their routines (see Method section). Then, a descriptive transcript was made after each observation period. Our last step (for this report) was that of conceptualizing anew a set of scales concerning maternal early care derived from those ethnographic records created; these scales were subsequently used to test the hypothesis proposed.

In sum, this study addressed two substantive questions and a methodological concern. First, is Ainsworth's conceptualization of maternal sensitivity (Ainsworth et al., 1978) appropriate for characterizing early care in a different cultural context from the one in which it is usually studied? In order to answer this question using culturally sensitive information removed, as much as possible, from theoretical influences, we implemented an ethnographic approach to arrive at a more native conceptualization of early care. This aspect of the study was conducted by Colombian researchers who had limited knowledge (at an undergraduate level) of attachment theory. In addition, we collected information on maternal sensitivity using a conventional assessment (the Maternal Behavior Q-Set [MBQS]; Pederson & Moran, 1995). The cross-cultural generality hypothesis would be supported if findings indicated that the scales (i.e., domains) derived from ethnographic records conceptually mapped well onto Ainsworth's model of care and if the new scales were significantly associated with the conventional assessment of sensitivity used. Second, is the link between early care and security significant when culturally specific assessments of early care are used? To answer this question, we also collected information on infants' secure base behavior with the Attachment Q-Set (AQS; Waters, 1995). Significant associations between the organization of secure base behavior (i.e., security) and the ethnographic scales about early care would constitute evidence in support of the cross-generality hypothesis. Lack of a significant association between culturally specific assessments of early care and security would not empirically support the cross-cultural generality of the sensitivity–security link.

Method

Participants

Participants in the study were 30 infant–mother dyads in Bogotá, Colombia. Dyads came from Sector 3 (out of 6 sectors), a middle- to middle-low-class sector of the population (DANE, 1991). Participants were contacted through a health, housing, and education provider with which the families were associated. They lived in a residential apartment complex that was surrounded by a fence and that was accessible only through security gates. The complex was located in a bustling sector of the city; apartments were 2–3 bedroom facilities (approximately 55–60 m²), and the complex had community playing areas for children. Not all families had

their own car, but the residential complex was readily accessible by means of public transportation (many bus routes pass by or have their terminal stations nearby). Although by Colombian standards the sample can be classified as middle to middle-low class, their living conditions are different from those of middle-class U.S. samples; for example, living space is more reduced and economic conditions are tighter than those of U.S. middle-class samples, and overall neighborhood and urban conditions are different. Middle-class families in Colombia have been described as a sector of the population whose members experience great social pressure to keep up or improve their social status, and children are conceived with some fear because child rearing and education demand great economic sacrifices (Puyana, 1985).

All children were healthy and came from a nonclinical population and intact families (i.e., infants lived with both parents). Mothers declared themselves as their infants' principal caregivers. There were 14 boys and 16 girls, who were between 6 and 13 months of age at the time of the first home visit. Infants had one sibling on average (range = 0 to 4 siblings). Mothers' ages ranged from 23 to 39 years ($M = 31.4$ years), and their education level ranged from incomplete high school to having a university degree (1 mother did not complete high school, 8 had a high school degree, 7 had a technical degree, and 14 had a university degree). Fathers' ages ranged from 25 to 44 years ($M = 35.1$ years), and their education ranged from incomplete high school to a university degree (1 father did not complete high school, 6 had a high school degree, 5 had a technical degree, and 18 had a university degree).

Procedure

Maternal caregiving and infant secure base behavior were observed at home. Mothers were approached by members of the research team, who invited them to participate in the study. If they agreed, the study was explained in greater detail and a first home visit was scheduled. A total of eight to nine 2-hour home visits were conducted with most (27) of the families. Maternal behavior was observed during six to seven home visits. First, one observer conducted extensive unstructured observations of caregiving during child–mother interactions. Specifically, 19 dyads were visited five times, 8 dyads were visited four times, 1 dyad three times, and 2 dyads two times. Ethnographic transcripts were made after each of these visits. Second, a pair of observers conducted two additional 2-hour home visits (there was only one home visit for 2 families because of scheduling difficulties) to observe and describe maternal behavior during caregiving routines, and after the visits, they provided independent descriptions with the MBQS (Pederson & Moran, 1995). Finally, two observers conducted two additional home visits per family to observe and describe infants' secure base behavior. After each visit, observers independently provided a description of infants' behavior using the AQS (Waters, 1995). There was only one home visit for 4 families because of scheduling difficulties. All home visits were unstructured such that mothers were told to go about their activities as they normally would. Observers were allowed to interact naturally with both the mother and the infant (i.e., they conducted participant observations; Spradley, 1980) during the visits. All field observers were 4th- and 5th-year Colombian undergraduate students enrolled in a research practicum for credit; they had no in-depth knowledge of attachment theory.

Assessment

Open-ended observations and description of maternal caregiving behavior. Mothers were observed during caregiving routines such as feeding, cleaning, responding to their babies' signals, and playing with their infants. These open-ended visits were unstructured and were conducted by an observer who accompanied and interacted with both the mother and the infant during the observation times. Immediately after each visit, the observer created a detailed transcript that described maternal caregiving

behavior observed during the mother–infant interactions (see the Appendix for examples of excerpts from the ethnographic transcripts).

The same observer conducted all ethnographic visits for a given family except in 1 case that had one observer for two visits and a different observer for three visits. Training to conduct these visits consisted of a methodology seminar in which ethnographic research and its purposes were described and explained; emphasis was placed on how to conduct participant observations (Spradley, 1980; Strauss, 1987). During training, observers were exposed to ethnographic transcripts from a different study (i.e., a project with adolescents) and conducted five practice visits that focused on child–mother interactions. Feedback on the quality of the transcripts was given to each observer after each practice visit.

To organize the open-ended information collected about maternal behavior, Gloria Alzate and Olga A. Carbonell, in consultation with an expert ethnographer, read and analyzed the transcripts from the visits. Following Strauss's (1987) and Spradley's (1980) ethnographic methodology, they developed a system of domains of maternal caregiving behavior.² More specifically, the transcripts were initially read and a first coding was conducted in which broad themes of maternal care were identified (open coding; Strauss, 1987). A second, detailed reading was done to refine, discover, and specify domains and subdomains (domain analysis, Spradley, 1979, 1980; grounded theory, Strauss, 1987). Ultimately, the idea was to characterize maternal caregiving by developing culture-sensitive categories of behavior based on the information gathered through participant observations of mothers interacting with their infants. Thus, domains of maternal caregiving behavior were determined inductively.

Nine domains regarding maternal care were identified for this sample. These resulting domains are presented in the Results section. Subsequently, in order to score the transcripts on each of the identified domains, we developed rating scales with 1 and 7 as anchoring points (Alzate, Carbonell, Posada, & Bustamante, 1999). The noneven points of the scales (i.e., 1, 3, 5, and 7) were clearly defined, and pairs of research assistants scored each mother on each of the scales by rating her transcripts of the home visits.³ To assign scores, assistants independently read the transcripts and, in a structured table (Domain \times Transcript Number), wrote the behavioral content for each domain found in the transcripts. Then, using the scales, they assigned scores to each participant in each transcript. The assistants scoring the transcripts about maternal behavior were independent from the observers who conducted any of the visits for either mothers' or infants' behavior. Disagreements (rating differences of 2 or more points) were discussed and resolved. In addition to the score for each of the scales, a total composite score reflecting the overall quality of maternal caregiving was calculated for each mother by averaging her scores across the scales. Interrater agreement on the original ratings for the total score was .89 ($p < .001$). Both the scale and the composite scores were used for analyses.

² Gloria Alzate, who led the development of the ethnographic domains, is an educational psychologist with experience in qualitative/ethnographic research in adolescence. Olga A. Carbonell is a developmental psychologist with formal training in genetic/cognitive psychology. Although both are cognizant of attachment theory, neither of them has been formally trained in it.

³ The complete scales are available from Gloria Alzate and Olga A. Carbonell. Definitions of the points for one of the scales, Diversity of Functions in Maternal Verbalizations, follow:

(7) *High diversity in use of verbal language; baby is seen as an active interlocutor:* Most of the infant–mother interaction episodes (i.e., 90%) are characterized by mother's diverse use of verbalizations. Mother talks to and recognizes her baby as an active interlocutor; thus, she provides the baby with explanations and information; also she praises, asks questions, makes announcements of activities, sets limits, reproaches, reprimands, and accompanies her actions with verbalizations.

Conventional assessment of maternal caregiving behavior. In addition to the previously described home visits, two 2-hour home visits were conducted to observe and describe maternal care with a conventional instrument, the MBQS (Pederson & Moran, 1995). The MBQS has 90 items that are based on Ainsworth's conceptualization of early care (Ainsworth et al., 1978). Most of the items are behaviorally specific. Data in support of the instrument's validity have been reported elsewhere (e.g., Moran, Pederson, Pettit, & Krupka, 1992; Pederson, Gleason, Moran, & Bento, 1998; Pederson & Moran, 1995, 1996; Pederson et al., 1990). Two members of the Colombian research team first translated the MBQS into Spanish. Then, to check on the accuracy of the translation, each item was translated back into English by a different translator and revised if the meaning of the item was not correct.

As in the previous observations, maternal caregiving behavior was observed in everyday circumstances. Two observers, independent from the one who conducted the ethnographic visits, provided descriptions of maternal behavior. Observers were trained in the use of the MBQS. Training consisted first of learning and discussing the meaning of the MBQS items. Then observers conducted about five observations and provided descriptions of infant-mother interactions at home with the MBQS, and their descriptions were compared to those of an expert. An observer was considered trained when he or she obtained interobserver reliability of at least .70 in three consecutive Q descriptions during the training period.

Each observer provided a description of the mothers' behavior. Following Q methodology (Block, 1978), observers initially divided the 90 items into three piles labeled "characteristic," "neither characteristic nor uncharacteristic," and "uncharacteristic." Subsequently, the three piles were further subdivided into nine piles of 10 items each, ranging from 9 ("most characteristic") to 1 ("most uncharacteristic"). The pile number in which an item was placed was the rating for that item. Mean interobserver reliability (calculated from the agreement between the Q descriptions) was .85 (range = .66 to .97). The descriptions were averaged into a composite description, and a global maternal sensitivity score was obtained by correlating that composite description with a criterion sort that described an optimally sensitive mother (Pederson & Moran, 1995). The correlation between these two descriptions was a mother's sensitivity score. This score was used for analyses.

Infants' secure base behavior. Infants' organization of secure base behavior was described with the AQS (Waters, 1995). The AQS was created for use with infants and preschool children, and it has 90 items (Cicchetti, Cummings, Greenberg, & Marvin, 1990; George & Solomon, 1999; Waters & Deane, 1985). This instrument allows researchers to directly describe and assess the organization of attachment behavior in

naturalistic settings such as homes and playgrounds. Its validity has been documented in various studies (e.g., Park & Waters, 1989; Pederson & Moran, 1996; Vaughn & Waters, 1990; Waters & Deane, 1985). Specifically in Colombia, the validity of the AQS has been supported in three different studies (Posada et al., 1995, 1999, 2002).

Two 2-hour separate home visits to observe infants' secure base behavior at home were conducted when the babies were about 1 year old. The infants' average age at the time of the first attachment assessment was 13.1 months (range = 8–24 months); 26 of 30 infants were between 8 and 15 months of age, and the other 4 infants were 18, 20, 23, and 24 months old. Two observers independent from those who rated maternal behavior with the scales developed for this study or the MBQS provided Q descriptions of infants' secure base behavior. They were trained in the use of the AQS. Training with this Q set followed the same procedures described before for the MBQS. Similarly, each observer provided a description of an infant's behavior by following the same procedure described above. The end result consisted of the 90 items placed in nine piles of 10 items each ranging from "most characteristic" to "most uncharacteristic." Mean interobserver reliability (calculated from the agreement between the Q descriptions) was .82 (range = .71–.92). The descriptions were averaged into a composite that was used as the Q description of an infant's secure base behavior.

A global security score for each child was obtained by correlating that composite description with a security criterion sort that described the prototypically secure child (Waters, 1995). The correlation between these two descriptions was a child's security score. This score was used to investigate the association between the organization of infants' secure base behavior and the quality of maternal caregiving.

Results

The presentation of the findings is divided into two parts. The first is concerned with (a) a qualitative analysis of the open-ended information regarding maternal caregiving behavior conducted for the purpose of organizing and systematizing such information and (b) a quantitative analysis of the relations between the different domains of maternal care found and sensitivity as per attachment theory. The second part focuses on quantitative analyses of the relations between the quality of maternal early care and the organization of infants' secure base behavior.

Characterization of Maternal Early Care

The first aim of the study was to determine how quality of care is expressed in a cultural context other than that of a North American middle-class group and whether that characterization matches Ainsworth's (Ainsworth et al., 1978). Following ethnographic methodology, we conducted a domain analysis of transcripts describing maternal caregiving (see assessment section above), which rendered nine categories of maternal behavior, two of them with two subcategories. Those categories were (1) promptness of response; (2) response effectiveness; (3) behavioral consistency; (4) balance between responding to the baby and other demands; (5) balance between physical caregiving and social interaction with the baby; (6) enjoyment of interaction; (7) interactive smoothness/harmony; (8) frequency of, and (9) quality of, physical contact; and (10) frequency of, and (11) diversity of functions in, maternal verbal communications.

1. *Promptness of response* refers to the time interval that occurs between the mother's identification of the infant's signals and her response. At one extreme are some mothers who respond immediately or promptly most of the time. At the other extreme are some mothers who rarely respond promptly, allowing their infants'

(5) *Moderate diversity in use of verbal language:* Many times (i.e., 70%) infant-mother interaction episodes are characterized by mother's diverse use of verbal language that recognizes the infant as an active interlocutor. She provides the infant with explanations and information, praises the infant, asks him or her questions, makes announcements of activities, sets limits, reproaches, reprimands, and accompanies her actions with verbalizations.

(3) *Limited diversity in use of verbal language:* Few (i.e., 30%) infant-mother interaction episodes are characterized by diverse use of verbal language. Most of the time, mother uses language in a restricted fashion, and its communicative function is usually limited to giving orders, reproaching, and reprimanding the baby or the baby's behavior. The mother seems to perceive her infant as a passive interlocutor.

(1) *Very limited diversity in use of verbal language:* Very few (i.e., 10%) infant-mother interaction episodes are characterized by diverse use of verbalizations on the mother's part. Most of the time, the mother uses language in a restricted fashion, and its communicative function is usually limited to giving orders, reproaching, and reprimanding the baby. The mother definitely seems to perceive her infant as a passive interlocutor.

cries and negative signals to appear and/or intensify; their response is very delayed.

2. *Response effectiveness* refers to the degree of adjustment and appropriateness of a mother's response when interacting with her infant in terms of satisfactory outcomes as observed in the infant's behavior and emotional expressions. On one side are some mothers who adjust their responses to their infants' demands most of the time, and satisfactory outcomes in terms of the infants' behavior (smiles, vocalizations, placid emotional tone) are observed. On the other side are some mothers who frequently exhibit very little adjustment and effectiveness in responding to their babies, as demonstrated by the infants' behavior (i.e., crying, whining, tantrums, or if the infant is calm to begin with, protesting when the mother intervenes).

3. *Behavioral consistency* refers to the coherence and stability of a mother's behavior and emotional expression within and across interaction episodes (e.g., feeding, bathing, playing with the infant, putting him or her to bed). On one side are some mothers who exhibit coherent and stable behaviors and emotional expressions during most of the situations and interactive routines observed. On the other side are some mothers who are frequently inconsistent when responding to their babies and who exhibit contradictory behavioral and emotional manifestations (e.g., sudden and strong changes in emotional reactions during an interaction).

4. *Balance between responding to the baby and other demands* refers to a mother's ability to turn her attention and respond to the infant's needs and signals as well as to other household, family (e.g., relatives), and social (e.g., visitors) demands. On one side are some mothers who are able to balance their attention to their babies' needs and signals with other demands most of the time. On the other side are some mothers who exhibit an absence of such a balance and who, on most occasions, when pressed by other demands, do not respond to their infants' signals.

5. *Balance between physical caregiving and social-emotional interaction with the baby* refers to a mother's ability to attend and respond to both the physical aspects (e.g., changing diapers) and the social-emotional aspects of caregiving (e.g., smiling, playing, touching and caressing the baby). On one end are some mothers who balance both aspects of caregiving most of the time. On the other end are some mothers who exhibit an absence of such a balance and who most of the time focus on the task itself without interacting much with the baby.

6. *Enjoyment of interaction* refers to positive maternal emotional manifestations during interaction with the infant. These manifestations are usually mutual, and the baby participates in those positive exchanges; each member of the dyad seems to feed off the other's delight and good feelings. Some mothers frequently participate in exchanges with their babies, evincing enjoyment through their smiles, eye-to-eye contact, playful behavior, and positive vocalizations. At the other end of the scale are some mothers who rarely evince enjoyment; on the contrary, most of their emotional manifestations indicate a flat affect, some tension, feelings of discomfort, and/or reproach of the baby.

7. *Interactive smoothness or harmony* refers to maternal caregiving behavior that responds to the infant's behavior and contributes to the synchrony and flow of the infant-mother interaction. On one side are some mothers who actively contribute to harmonious infant-mother interactions by taking into consideration their babies' initiatives and "negotiating" their babies' desires and their

own goals in ways that get both accomplished. In a word, these mothers are respectful of their babies' initiatives most of the time. On the other side are some mothers who do not contribute to harmonious interactions, who restrict their infants' initiatives, and whose maternal goals predominate over the infants' desires; there is no "negotiation." Most of these child-mother exchanges are characterized by conflict, and most situations are resolved unsatisfactorily for at least one of the members of the dyad.

The physical contact domain is concerned with infant-mother bodily contact during interactions and has two categories, frequency and quality of physical contact:

8. *Frequency of physical contact* refers to how often there is maternal physical contact when in interaction with the infant. On one side are some mothers who frequently establish physical contact; on the other side are some mothers who establish little physical contact when interacting with their infants. Mothers on the low end of this scale usually limit physical contact to transporting the baby from one place to another or to routine holding.

9. *Quality of physical contact* refers to the adequacy and appropriateness of maternal physical contact as judged by the infants' expression of satisfaction when contact is established (e.g., caresses, kisses, hugs, and physical games); both maternal- and infant-initiated physical contact were included in this subdomain. On one side are some mothers who provide their infants with appropriate physical contact most of the time, as judged by the infants' response (e.g., smiles, positive vocalizations, and/or if upset, calming down when contact is provided). On the other side are some mothers who provide their infants with unsatisfactory physical contact most of the time; in most of the interactions that involve physical contact, their infants are unsatisfied in that they cry, whine, and/or avoid or reject physical contact.

Finally, the domain related to verbal communication refers to a mother's use of oral language when interacting with her infant, and it also has two subcategories, frequency and diversity of functions in maternal verbalizations:

10. *Frequency of verbalizations* refers to the quantity of verbal interactive communications in child-mother interactions. Thus, some mothers frequently use verbal communications during their interactions with their infants. Some other mothers exhibit a very low frequency of verbal communication; that is, few verbalizations accompany their actions when they interact with their infants.

11. *Diversity of functions in maternal verbal communications* refers to the different uses of verbal language and to whether mothers acknowledge their infants as active or passive interlocutors. For instance, language can be used to announce, ask, explain, inform, praise, demand, set limits, reproach, and reprimand, among other functions. On one side are some mothers who exhibit great diversity in their use of verbal communications during most of their interactions with their babies. They seem to acknowledge their babies as active interlocutors. On the other side are some mothers who frequently show a very limited range in the use of verbal language when interacting with or talking to their infants. Most of the time, these mothers use language in restricted ways, and its communicative function usually is limited to ordering, reprimanding, and reproaching their babies. These mothers seem to perceive their infants as passive interlocutors.

In brief, ethnographic analyses of information obtained in naturalistic open-ended observations of mother-infant interactions at home rendered nine domains of caregiving behavior. Those do-

mains allowed researchers to characterize maternal early care in the sample studied and were used for subsequent analyses.

Next, we investigated the quantitative associations between the two assessments of maternal care. Descriptive statistics for each of the maternal ethnographic scales and MBQS sensitivity scores are presented in Table 1. The mean score for the overall quality of maternal behavior scale was 5.66, and the standard deviation was 1.17 (range = 1.63 to 6.97). Mean scores for the specific scales ranged from 5.47 to 5.94, and their standard deviations ranged from 1.05 to 1.47. The mean score for maternal sensitivity was .69, and the standard deviation was .14 (range = .23 to .87). This mean is comparable to the average scores reported in studies with middle-class samples (e.g., Pederson & Moran, 1995, 1996). Associations among the ethnographic scales are presented in Table 2. All scales of maternal behavior were highly and positively intercorrelated. Correlation indices ranged from .57 to .92. This result parallels that of Ainsworth's in her U.S. sample (Ainsworth et al., 1978).

Correlational analyses between the scores on the different maternal scales and the MBQS sensitivity scores were conducted. The overall quality of maternal behavior (i.e., the total score) was positively and significantly associated with independent maternal sensitivity scores ($r = .47, p < .01$).⁴ Similarly, each of the ethnographic scales was positively and significantly related to global MBQS maternal sensitivity scores (see Table 3). Correlation indices ranged from .30 to .61.

Early Maternal Care and the Organization of Secure Base Behavior

The second aim of this report was to study the associations between maternal behavior and the organization of infants' secure base behavior as assessed by the AQS. Descriptive statistics for infants' security scores are presented in Table 1. The mean score

for infants' security was .46 with a standard deviation of .20 (range = $-.18$ to $.68$). This average is also comparable to that reported in other studies of middle-class samples (e.g., Park & Waters, 1989). A key goal of the present study was to investigate the relations between the ethnographic caregiving scales and infants' security scores. At the level of overall scores, that is, the total score for the scales on maternal caregiving and the security score for infants, a Pearson correlation index indicated that the constructs were positively and significantly associated ($r = .61, p < .001$). The higher the overall quality of care score a mother obtained, the higher her infant's security score.⁵ Similarly, all specific domains of maternal care were significantly related to attachment security (see Table 3). Correlation indices ranged from .33 to .76. Also, maternal sensitivity (MBQS) and child security (AQS) scores were found to be significantly associated ($r = .42, p < .01$).

Discussion

Recent challenges to attachment theory have questioned the cross-cultural generality of several of its central constructs and hypotheses (e.g., Rothbaum et al., 2000). In this article we presented information concerning two such issues: First, we investigated the cross-cultural generality of Ainsworth's conceptualization of maternal sensitivity (Ainsworth et al., 1978) by using ethnographic methodology to arrive at a culturally specific conceptualization of maternal early care. Second, we investigated the cross-cultural generality of the sensitivity–security link by studying the relations between that culturally specific conceptualization of early care and the organization of secure base behavior.

Quality of Maternal Early Care

We studied the appropriateness of the attachment theory conceptualization of early care in a cultural context different from the one regularly used by researchers. Rather than starting with the definition provided by the theory, we collected open-ended descriptions of mothers' behavior when in interaction with their infants at home in a middle- to middle-low-class sector of Bogotá, Colombia. On the basis of those descriptions, we inferred domains of maternal behavior that allowed us to organize the information gathered and to characterize how mothers interacted with their infants.

⁴ Because education could be associated with the quality of maternal behavior, we checked whether the overall quality of care, as per the ethnographic domains, and maternal sensitivity, as per the MBQS, were associated with years of education. In neither case was the Pearson correlation coefficient significant ($r = .02$ and $r = .03$, respectively).

⁵ Because the age range for the infants was relatively broad when security was assessed (8–24 months), we investigated whether infant age was associated with any of our main measures. Correlational analyses indicated that scores on security, sensitivity, and the total scale for the ethnographic data were not significantly related to infants' age ($r_s = -.04, .11, \text{ and } .19$, respectively). Partial correlational analyses controlling for infant age indicated that the relations among the variables concerned remained virtually unchanged (for security score with total ethnographic scale score, $r = .63$; for security score with sensitivity score, $r = .44$; and for total ethnographic scale score with sensitivity score, $r = .45$).

Table 1
Descriptive Statistics

Variable	<i>M</i>	<i>SD</i>	Range
Overall quality of care	5.66	1.17	1.63–6.97
Specific domains of early care			
1. Promptness of response	5.81	1.14	2.50–7.00
2. Response effectiveness	5.67	1.25	2.00–7.00
3. Behavioral consistency	5.94	1.09	2.50–7.00
4. Balance between responding to the baby and other demands	5.47	1.41	1.50–7.00
5. Balance between physical care and social interaction with the baby	5.47	1.47	1.00–7.00
6. Enjoyment of interaction	5.72	1.41	1.00–7.00
7. Interactive smoothness	5.74	1.05	3.00–7.00
8. Frequency of physical contact	5.79	1.21	3.00–7.00
9. Quality of physical contact	5.72	1.32	1.50–7.00
10. Frequency of verbal communication	5.55	1.33	1.50–7.00
11. Diversity of functions in verbal communications	5.51	1.25	1.50–7.00
Maternal sensitivity (MBQS)	.69	.14	.23–.87
Attachment security (AQS)	.46	.20	-.18–.68

Note. MBQS = Maternal Behavior Q-Set; AQS = Attachment Q-Set.

Table 2
Associations Among Domains of Maternal Care

Domain	1	2	3	4	5	6	7	8	9	10	11
1. Promptness of response	—	.91	.86	.87	.81	.81	.79	.65	.77	.68	.67
2. Response effectiveness		—	.88	.86	.81	.89	.90	.80	.87	.72	.74
3. Behavioral consistency			—	.87	.81	.82	.81	.80	.84	.69	.77
4. Balance baby vs. other demands				—	.82	.70	.79	.67	.74	.65	.68
5. Balance physical care vs. social interaction					—	.86	.70	.70	.82	.84	.84
6. Enjoyment of interaction						—	.84	.80	.88	.77	.77
7. Interactive smoothness							—	.76	.81	.57	.65
8. Frequency of physical contact								—	.90	.61	.71
9. Quality of physical contact									—	.75	.84
10. Frequency of verbalizations										—	.92
11. Diversity of verbalizations											—

Note. All correlations among domains of maternal caregiving behavior are significant at $p \leq .01$.

The ethnographic domains obtained from the sample studied (i.e., promptness, effectiveness, and consistency of response; balance between responding to the baby and other demands; balance between physical caregiving and social interaction with the baby; enjoyment of interaction; interactive harmony; frequency and quality of physical contact; and frequency and diversity of functions in maternal verbal communications) conceptually correspond to much of Ainsworth's conceptualization of quality of early care (Ainsworth et al., 1978).

Accordingly, issues related to the promptness and effectiveness of mothers' responses are part of Ainsworth's definition of maternal sensitivity; balance between responding to the baby and other demands is related to the concept of accessibility; enjoyment of interaction is associated with issues of maternal feelings about interacting with her infant (i.e., acceptance); and participation in harmonious interactions is related to cooperation with an infant's ongoing behavior (Ainsworth et al., 1978). Other domains of maternal behavior that arose from our observations are concerned with issues of balancing the physical task of caregiving and interacting socially with the baby

and frequency and quality of physical contact during interactions. Although not necessarily the same, they are related to aspects of caregiving referred to by Ainsworth (Ainsworth et al., 1978). Specifically, Ainsworth assessed issues concerned with close bodily contact such as duration of pick-up episodes, affectionate pick-ups, abrupt interfering pick-ups, tender careful holding, inept holding, routine holding, pick-ups and put-downs, and face-to-face interactions.

Furthermore, our results highlighted another domain of maternal behavior during infant-mother interactions: verbal communication. Specifically, the subdomains of frequency of verbalizations and diversity of functions in maternal verbalizations when speaking to the baby were found to be salient features of mothers' behavior when infant-mother exchanges during the 1st year of life were described. In addition, interesting individual differences in mothers' verbalizations directed toward their infants, both in frequency and diversity of verbalizations, were found.⁶ These individual differences are likely to be an important avenue of inquiry, for they may affect the ways children come to organize their communication patterns within attachment relationships and their attachment-related representations (see Waters, Rodriguez, & Ridgeway, 1998).

Table 3
Associations Between Ethnographic Scales and Sensitivity and Security Scores

Ethnographic scale	Sensitivity (MBQS)	Security (AQS)
Overall quality of care	.47**	.61**
Specific domains of early care		
1. Promptness of response	.61**	.51**
2. Response effectiveness	.55**	.63**
3. Behavioral consistency	.45**	.51**
4. Balance between responding to the baby & other demands	.51**	.33*
5. Balance between physical care and social interaction with baby	.36*	.57**
6. Enjoyment of interaction	.43**	.76**
7. Interactive smoothness	.49**	.55**
8. Frequency of physical contact	.40*	.55**
9. Quality of physical contact	.42**	.65**
10. Frequency of verbalizations	.30†	.53**
11. Diversity of functions in maternal verbalizations	.30†	.53**

Note. MBQS = Maternal Behavior Q-Set; AQS = Attachment Q-Set. † $p < .05$. * $p < .05$. ** $p \leq .01$.

⁶ Specifically, some mothers made up and sustained small "dialogues" with their babies. Those dialogues were related to both their own activities and the infant's signals and behavior. Thus, mothers announced activities to their babies; explained why they were doing things; asked about, commented, and expanded on their babies' behavior, vocalizations, and feelings; informed them about people and events in the room; praised their babies for what they did; identified or labeled people, objects, or activities (e.g., mom, baby, daddy, ball, and crawling); and demanded (e.g., "Do not pull mom's hair," "Do not throw things, be gentle"), reproached, and reprimanded their babies. It was obvious that mothers were not expecting an articulated verbal response from their infants, and yet some of them created these small "conversations," during which they seemed to construe their infants as active interlocutors, as separate individuals whose perspectives were voiced through their mothers, as illustrated by the mothers who provided "baby answers" based on their children's signals and facial expressions. Some other mothers exhibited a more restricted use of language both in terms of frequency and diversity of verbalizations. These mothers tended to speak to their babies less, and also, when they did, they frequently used language to demand, reproach, and reprimand their infants. Their babies seemed not to be considered active interlocutors; as one mother put it, "What should I talk to him for, if he doesn't understand?"

In sum, most of the domains of maternal behavior found in this study matched well those identified by Ainsworth; our characterization of maternal early care displays a direct relation to that of attachment theory (e.g., Ainsworth et al., 1978). Thus, Ainsworth's conceptualization of early care seems to correspond to and, in that sense, seems appropriate for describing mothers' caregiving behavior during the 1st year of an infant's life in this sample of middle- to middle-low-class Colombian dyads. It is important to note that the observers of both maternal and child behavior were all Colombian undergraduates with very limited exposure to attachment theory and certainly with no knowledge of Ainsworth's coding systems for either maternal or infant behavior. As for the researchers (Gloria Alzate and Olga A. Carbonell) who conducted the domain analyses to arrive at the culturally specific domains, both are Colombian as well and, although cognizant of attachment theory, did not have an in-depth knowledge of Ainsworth's coding systems either (i.e., had not been trained in the systems). Even so, a note of caution is necessary, for these facts cannot guarantee an unbiased perspective in the conceptualization of the different domains of maternal behavior. Certainly, those authors were acquainted with attachment theory, and this knowledge may have influenced their inductive conceptualization process when they were looking at the transcripts of the visits.

Results also indicated that scores on the ethnographic scales and the conventional maternal sensitivity scores were positively and significantly related. This comparison allowed us to quantitatively check for the correspondence between these two different assessments of maternal behavior quality. Findings indicate that the construct of maternal sensitivity as assessed by the MBQS (Pederson & Moran, 1995) provides a valid assessment of quality of early care in this sector of the population in Colombia. To verify this claim, we are in the process of replicating these results in an ongoing project with a different, more diverse, and larger sample. An initial assessment of 47 infant-mother dyads conducted by independent observers indicates that both measures are significantly related ($r = .64, p < .01$; Carbonell, Plata, Posada, & Alzate, 2002). Of course, more research with samples from different cultural and social backgrounds is needed. Overall, then, the evidence presented supports the notion that maternal sensitivity is not a construct exclusively relevant to middle-class samples from Western industrialized countries but is applicable to infant-mother dyads in other populations.

The Sensitivity-Security Link

The second goal of this study was to investigate the associations between the ethnographic domains of maternal behavior and the organization of infants' secure base behavior. Analyses of the association between quality of maternal care and organization of secure base behavior as summarized by the security scores indicated that the constructs were significantly and positively correlated. This result supports the hypothesis about the cross-cultural generality of the link between the quality of early care and attachment security; that is, the link holds in groups other than those representing white middle-class North Americans.

It is worth noting that the robust size of the association found between the general quality of care and attachment security may be due to the extensive observations of maternal care and infant secure base behavior and to the likely representative sampling of

both kinds of behavior we obtained. More extensive observations seem to lead to stronger associations between the variables. Thus, the association between the summary scale for the ethnographic domains (based on 10 hours of observation) and security was .61, whereas the association between MBQS sensitivity scores (based on 4 hours of observation) and security was .42. It is, then, not surprising that Ainsworth's Baltimore study (based on over 47 hours of observation per case; Ainsworth et al., 1978) has yielded the strongest index of association between the two variables and that subsequent studies that substantially reduced the window of observation time reported only modest levels of association. Methodological issues seem to be implicated here. The findings presented lend support to Ainsworth's observational methods.

In addition, it is important to note that the information on quality of care and secure base behavior was collected using instruments different from the ones usually employed in attachment research (i.e., Ainsworth's scales on maternal care and the Strange Situation; Ainsworth et al., 1974, 1978). Yet when a conventional measure of maternal sensitivity was used, findings were confirmed and were similar to those of other investigations that have used Q methodology to assess the constructs (e.g., Pederson & Moran, 1995, 1996).

Also, all domains of maternal behavior inferred from naturalistic observations were significantly related to infants' organization of secure base behavior. The more mothers were prompt, appropriate, and consistent when responding to their infants, the more balance they exhibited between responding to their babies and other demands and between performing the physical aspects of caregiving and interacting socially with their infants, and the more mothers enjoyed their interactions and contributed to harmonious exchanges with their babies, the more secure their infants were. In addition, the more physical contact infants received, the more satisfactory this contact was, and the more mothers talked to their babies and used language in a variety of ways, the higher their infants' security scores were.

To summarize, Colombian descriptions about the quality of maternal caregiving behavior were found to be significantly related to infants' organization of secure base behavior. Recently, questions about the cross-cultural generality of the sensitivity-security link and the importance of context-specific assessments of early maternal care, as far as attachment outcomes are concerned, have been at the center of a debate. Some authors (e.g., Rothbaum et al., 2000, 2001) have argued that the sensitivity-security association itself, as conceptualized by attachment theory, may be appropriate only for samples from Western industrialized societies. After all, it is in those societies where most of the research on attachment relationships has been produced. These authors' point is well taken, and certainly the field is in need of studying the phenomena under consideration in different contexts in their own right and with measures that have been validated in those particular contexts. This study directly addressed those issues and provided evidence that does not support these authors' assertion. Yet, the issues are far from resolved, and more research is required.

To conclude, the information presented supports the generality of the conceptualization of early care offered by attachment theory. The construct of sensitivity appears to be applicable in the middle- to middle-low-class Colombian sample studied. In addition, the findings illustrate the relevance of further exploring infant-mother interactions because important new domains (e.g., diversity of

verbalizations) of those relationships may come to the forefront. Also, the findings illustrate that the use of methods that allow researchers to uncover new relevant topics is essential. Although observational research on early care in naturalistic settings is scant, perhaps because of its high time-consuming and effort-consuming features, it is necessary in order to address issues central to the cross-cultural debate. Finally, the results support the hypothesis of the sensitivity–security link in cultures different from those in middle-class Western industrialized societies.

References

- Abelson, R. P. (1985). A variance explanation paradox: When a little is a lot. *Psychological Bulletin*, *97*, 129–133.
- Ainsworth, M. D. S. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore: Johns Hopkins University Press.
- Ainsworth, M. D. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant–mother relationship. *Child Development*, *40*, 969–1025.
- Ainsworth, M. D. S. (1991). Attachment and other affectional bonds across the life cycle. In C. M. Parkes, J. Stevenson-Hinde, & P. Morris (Eds.), *Attachment across the life cycle* (pp. 33–51). London: Routledge.
- Ainsworth, M. D. S., Bell, S. M., & Stayton D. F. (1974). Infant–mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals. In M. P. M. Richards (Ed.), *The integration of a child into a social world* (pp. 99–135). New York: Cambridge University Press.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Alzate, G., Carbonell, O. A., Posada, G., & Bustamante, M. R. (1999). *The Maternal Care Giving Scales*. Unpublished manuscript, Javeriana University, Bogotá, Colombia.
- Block, J. (1978). *The Q-sort method in personality assessment and psychiatric research*. Palo Alto, CA: Consulting Psychologists Press.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base*. New York: Basic Books.
- Carbonell, O. A., Plata, S. J., Posada, G., & Alzate, G. (2002). *The Mother–Infant Intervention Project: An interim report*. Bogotá, Colombia: Javeriana University.
- Chao, R. (2001). Integrating culture and attachment. *American Psychologist*, *56*, 822–823.
- Cicchetti, D., Cummings, E. M., Greenberg, M. T., & Marvin, R. S. (1990). An organizational perspective on attachment beyond infancy. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years* (pp. 3–49). Chicago: University of Chicago Press.
- DANE (Departamento Administrativo Nacional de Estadística). (1991). *La pobreza en Colombia* [Poverty in Colombia]. Bogotá, Colombia: Author.
- De Wolff, M. S., & van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, *68*, 571–591.
- Donovan, W. L., & Leavitt, L. A. (1989). Maternal self-efficacy and infant attachment: Integrating physiology, perceptions, and behavior. *Child Development*, *60*, 460–472.
- Egeland, B., & Farber, E. A. (1984). Infant–mother attachment: Factors related to its development and changes over time. *Child Development*, *55*, 753–771.
- Fagot, B. I., & Kavanagh, K. (1993). Parenting during the second year: Effects of children's age, sex, and attachment classification. *Child Development*, *64*, 258–271.
- George, C., & Solomon, J. (1999). Attachment and care giving. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 649–670). New York: Guilford Press.
- Gjerde, P. (2001). Attachment, culture, and *Amae*. *American Psychologist*, *56*, 826–827.
- Grossmann, K., Grossmann, K. E., Spangler, G., Suess, G., & Unzner, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in Northern Germany. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research* (pp. 233–256). *Monographs of the Society for Research in Child Development*, *50*(1–2, Serial No. 209).
- Kondo-Ikemura, K. (2001). Insufficient evidence. *American Psychologist*, *56*, 825–826.
- Matas, L., Arend, R. A., & Sroufe, L. A. (1978). Continuity of adaptation in the second year: The relation between quality of attachment and later competence. *Child Development*, *49*, 547–556.
- Moran, G., Pederson, D. R., Pettit, P., & Krupka, A. (1992). Maternal sensitivity and infant–mother attachment in a developmentally delayed sample. *Infant Behavior & Development*, *15*, 427–442.
- Nakagawa, M., Lamb, M. E., & Miyake, K. (1992). Antecedents and correlates of the Strange Situation behavior of Japanese infants. *Journal of Cross-Cultural Psychology*, *23*, 300–310.
- Park, K. A., & Waters, E. (1989). Security of attachment and preschool friendships. *Child Development*, *60*, 1076–1081.
- Pederson, D. R., Gleason, K. E., Moran, G., & Bento, S. (1998). Maternal attachment representations, maternal sensitivity, and the infant–mother attachment relationship. *Developmental Psychology*, *34*, 925–933.
- Pederson, D. R., & Moran, G. (1995). A categorical description of infant–mother relationships in the home and its relation to Q-sort measures of infant–mother interaction. In E. Waters, B. E. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), *Care giving, cultural, and cognitive perspectives on secure-base behavior and working models: New growing points of attachment theory and research* (pp. 111–132). *Monographs of the Society for Research in Child Development*, *60*(2–3, Serial No. 244).
- Pederson, D. R., & Moran, G. (1996). Expressions of the attachment relationship outside of the Strange Situation. *Child Development*, *67*, 915–927.
- Pederson, D. R., Moran, G., Sitko, C., Campbell, K., Ghesquire, K., & Acton, H. (1990). Maternal sensitivity and the security of infant–mother attachment: A Q-sort study. *Child Development*, *61*, 1974–1983.
- Posada, G. (2002, August). *Caregiving and secure base behavior: An ethnographic study*. Paper presented at the annual conference of the International Society for the Study of Behavioral Development, Ottawa, Ontario, Canada.
- Posada, G., Gao, Y., Fang, W., Posada, R., Tascon, M., Schöelmerich, A., et al. (1995). The secure-base phenomenon across cultures: Children's behavior, mothers' preferences, and experts' concepts. In E. Waters, B. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), *Care giving, cultural, and cognitive perspectives on secure-base behavior and working models: New growing points of attachment theory and research* (pp. 27–48). *Monographs of the Society for Research in Child Development*, *60*(2–3, Serial No. 244).
- Posada, G., & Jacobs, A. (2001). Child–mother attachment relationships and culture. *American Psychologist*, *56*, 821–822.
- Posada, G., Jacobs, A., Carbonell, O. A., Alzate, G., Bustamante, M. R., & Arenas, A. (1999). Maternal care and attachment security in ordinary and emergency contexts. *Developmental Psychology*, *35*, 1379–1388.
- Posada, G., Jacobs, A., Richmond, M., Carbonell, O. A., Alzate, G., Bustamante, M. R., & Quiceno, J. (2002). Maternal care giving and infant security in two cultures. *Developmental Psychology*, *38*, 67–78.
- Puyana, Y. (1985). El descenso de la fecundidad por estratos sociales [Fertility decrease by social strata]. In E. Bonilla (Ed.), *Mujer y familia en Colombia* [Woman and family in Colombia] (pp. 177–204). Bogotá, Colombia: Plaza & Janes.
- Rothbaum, F. (2002, April). *Attachment theory: Is it relevant universally?*

- Debate held at the biennial International Conference on Infant Studies, Toronto, Ontario, Canada.
- Rothbaum, F., Weisz, J., Pott, M., Miyake, K., & Morelli, G. (2000). Attachment and culture: Security in the United States and Japan. *American Psychologist*, *55*, 1093–1104.
- Rothbaum, F., Weisz, J., Pott, M., Miyake, K., & Morelli, G. (2001). Deeper into attachment and culture. *American Psychologist*, *56*, 827–829.
- Sagi, A., & Posada, G. (2002, August). *Attachment and culture*. Symposium presented at the annual conference of the International Society for the Study of Behavioral Development, Ottawa, Ontario, Canada.
- Seifer, R., Schiller, M., Sameroff, A. J., Resnick, S., & Riordan, K. (1996). Attachment, maternal sensitivity, and temperament during the first year of life. *Developmental Psychology*, *32*, 12–25.
- Spradley, J. P. (1979). *The ethnographic interview*. New York: Holt, Rinehart & Winston.
- Spradley, J. P. (1980). *Participant observation*. New York: Holt, Rinehart & Winston.
- Strauss, A. L. (1987). *Qualitative analysis for social scientists*. New York: Cambridge University Press.
- Thompson, R. A. (1998). Early sociopersonality development. In N. Eisenberg (Ed.) & W. Damon (Series Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 25–104). New York: Wiley.
- Valenzuela, M. (1990). Attachment in chronically underweight young children. *Child Development*, *61*, 1984–1996.
- Valenzuela, M. (1997). Maternal sensitivity in a developing society: The context of urban poverty and infant chronic undernutrition. *Developmental Psychology*, *33*, 845–855.
- van IJzendoorn, M. H., & Sagi, A. (1999). Cross-cultural patterns of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment* (pp. 713–734). New York: Guilford Press.
- van IJzendoorn, M., & Sagi, A. (2001). Cultural blindness or selective inattention? *American Psychologist*, *56*, 824–825.
- Vaughn, B., Egeland, B., Sroufe, A., & Waters, E. (1979). Individual differences in infant–mother attachment at twelve and eighteen months: Stability and change in families under stress. *Child Development*, *50*, 971–975.
- Vaughn, B. E., & Waters, E. (1990). Attachment behavior at home and in the laboratory: Q-sort observations and Strange Situation classifications of one-year-olds. *Child Development*, *61*, 1965–1973.
- Vereijken, C., Riksen-Walraven, J., & Kondo-Ikemura, K. (1997). Maternal sensitivity and infant attachment security in Japan: A longitudinal study. *International Journal of Behavioral Development*, *21*, 35–49.
- Ward, M. J., & Carlson, E. A. (1995). Associations among adult attachment representations, maternal sensitivity, and infant–mother attachment in a sample of adolescent mothers. *Child Development*, *66*, 69–79.
- Waters, E. (1995). The Attachment Q-Set (version 3). In E. Waters, B. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), *Care giving, cultural, and cognitive perspectives on secure-base behavior and working models: New growing points of attachment theory and research* (pp. 234–246). *Monographs of the Society for Research in Child Development*, *60*(2–3, Serial No. 244).
- Waters, E. (2002, April). *Attachment theory: Is it relevant universally?* Debate held at the biennial International Conference for Infant Studies, Toronto, Ontario, Canada.
- Waters, E., & Deane, K. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research* (pp. 41–65). *Monographs of the Society for Research in Child Development*, *50*(1–2, Serial No. 209).
- Waters, H. S., Rodriguez, L. M., & Ridgeway, D. (1998). Cognitive underpinnings of narrative attachment assessment. *Journal of Experimental Child Psychology*, *71*, 211–234.

Appendix

Excerpts From Ethnographic Transcripts

Example 1

“The mother started to clean the baby’s face; she wiped the baby’s forehead, his hair, cleaned his ears, then meticulously cleaned his neck, back, and lastly his legs, buttocks, and genitals. She asked me to accompany the baby for a moment while she brought a cream. Mother took the dirty diaper and went to the kitchen. During the approximately 3 minutes she was in the kitchen, she was always talking to us; she offered me a glass of milk and she told the baby things like: ‘And you my love? What do you want? Mommy is coming back now.’ The baby remained intently watching the ceiling and occasionally he looked at me, specifically he was watching my mouth; as the mother approached the door, the baby directed his gaze towards it and when he found mommy he smiled, moved his legs and arms vigorously, if uncoordinated. The mother gave me a glass of milk and then approached the baby, bent over and kissed him in the stomach. . . . When the mother finished dressing him, she picked up the clothes and other stuff from the bed; she got up and went to the kitchen with the baby’s dirty clothes; the baby started to cry (his cry was brief and of low intensity), the mother returned as soon as she heard the baby’s cry and approached him, leaned over his face and asked him: ‘What happens bebé? Are you tired or are you hungry?’ The mother sat again on the bed, picked him up, put the baby in her arms with his head on the right arm inclined in a way that the baby was almost in front of her. The mother uncovered her breast and gave

it to the baby. The boy started a strong and constant suction. The mother smiled (as if she was pleased by having guessed correctly the baby’s request).”

Example 2

(The baby is in the living room in a walker and the mother in the kitchen with a friend). “After a while the baby started crying but the mother did not respond immediately, only when the girl increased the intensity of her cry. In view that the mother did not pick her up, I approached the baby, took her out of the walker, and told her: ‘Let’s go and see mom.’ As soon as I picked her up she calmed down, her mother looked at her steadily, and said ‘What a sin with my baby, alright my love, wait a moment, see, mom is busy.’ The mother was cooking in a hurry because her husband had called and told her that he was on his way home to have lunch. The mother asked her friend to do some dishes while she went to hang clothes. . . . When the mother finished hanging clothes, I gave her the baby. The mother carried her and said to her ‘My love, forgive me for making you wait so long,’ then kissed her in the forehead and then realized the baby was wet. ‘You are a little wet, let’s change you.’ The mother changed the diaper in the girl’s room; while doing it, the mother talked to the baby, and the baby smiled.”

Received February 10, 2003

Revision received December 22, 2003

Accepted February 25, 2004 ■