Attachment theory and culture: parenting in Latin America and rural Peru from an attachment theory perspective

Fourment Sifuentes, K.G.

Chapter 4

Maternal sensitivity in rural Andean and Amazonian Peru

Katherine Fourment, Magaly Nóblega, Gabriela Conde, Juan Nuñez del Prado, and Judi Mesman

Attachment & Human Development (2021), 23(2), 134–149.

https://doi.org/10.1080/14616734.2020.1828515

Abstract

In the current study, we observed 12 mothers with a 4–21-month- old infant for around 3 hours during their daily activities such as feeding, bathing, and soothing in the multiple-caregiver cultural contexts of rural Peru. Overall, sensitivity levels were high, with an average of 7.33 (out of 9), and seven of the twelve mothers scoring in the high range (scores 7–9), and the remaining five in the good- enough range (scores 5–6). A qualitative description of sensitive responsiveness is presented through representative examples. Notable patterns were flexibility in caregiving routines that allow for very child-centered maternal behavior; mothers' ability to multi- task, combining household and agricultural work with high sensitive responsiveness to their infants' signals; the presence of multiple caregivers that ensured that the infants were well attended when mothers were temporarily unavailable; and what seems to be a culturally normative tendency to be sensitively responsive to very young children.

Keywords: maternal sensitivity, Peru, indigenous community, multiple caregivers

The rural areas in the Andean and Amazonian parts of Peru are characterized by high levels of poverty and harsh living circumstances as well as cultural marginalization, which have been shown to adversely affect maternal sensitivity in other communities (Mesman et al., 2012). However, findings from other (Western) regions cannot automatically be generalized to the cultural context of rural Peru, which might have its own patterns of family life and caregiving, in which observation studies of sensitivity have never been conducted. For example, when it comes to parenting practices, a more controlling parental style characterized by respect and obedience values is common in Latin America (Dixon et al., 2008). Studies on parenting in Peru specifically are scarce, but suggest a similar pattern combined with traditional childrearing practices characterized by physical affection and close family bonds (López et al., 2000). In addition, as shown recently, the manifestations of sensitive responsiveness may vary by culture, and there- fore requires a detailed analysis in each "new" cultural context to understand whether and how sensitivity is expressed. The current study aims to provide quantitative ratings and qualitative descriptions of sensitive responsiveness and its manifestations in a group of rural Andean and Amazonian mothers and their infants.

The republic of Peru is a sovereign country located at the central-west of South America. The Andean mountain range divides the country in three physio-geographical regions: coast, highland, and forest. These physio-geographical differences go hand in hand with social-economical differences. Poverty rates are highest in the remote Andean highland and Amazonian forest rural areas (Instituto Nacional de Estadística e Informática, 2017a) that are inhabited by three-quarters of the Peruvian indigenous population (Ribotta, 2008). These areas usually lack access to facilities and State government services, which is a legacy of the discriminatory practices as part of the European conquest denying such privileges to native Andean and Amazonian descendants as well as the Afro-American slaves' descendants (Anderson, 2016). About a third of the rural population do not have access to potable water, about 20% have no access to electrical power, over 80% cannot access drainage networks, and 31% uses fuelwood to cook (Instituto Nacional de Estadística e Informática, 2017b). These conditions extend to inadequate conditions during prenatal care, birth, and post- natal checkups, and children from rural areas in Peru are more likely to present low birth- weight, respiratory infections, diarrheal diseases, anemia, and chronical malnutrition (Instituto Nacional de Estadística e Informática, 2017b).

Like in other Latin American countries, familism – that refers to the support, loyalty, and commitment offered to family members, as outweighing individual needs – is an important element of family cultural conceptions in Peru (Coohey, 2001), with higher levels of emotional

support and protectiveness than those in other cultures (Domenech et al., 2009; Harwood et al., 2002).

Given the often socioeconomically deprived nature of the living conditions in the Andean an Amazonian rural areas in Peru, as well as environmental-geographical challenges (such as high altitude and harsh weather conditions), childrearing requires a substantial challenge in terms of time and energy investment (Hurtado et al., 2005). Similar to findings from rural areas and from indigenous communities with harsh living conditions in other Latin American countries, such as Bolivia, Ecuador or Mexico (Larraín & Bascuñán, 2009; Pinherio, 2006; Rizzin et al., 2006; Save the Children, 2003), harsh parenting strategies such as beating and physical punishment were found to be higher in rural Peru than in urban Peru (Instituto Nacional de Estadística e Informática, 2017b). This practice seems to have some cultural roots. The use of punishment is strongly related to the belief that pain is associated with learning and correcting behavior (Save the Children, 2003). The Andean area specifically is characterized by a vertical and inflexible relational system among families, in which children have to obey norms without discussion and submission and passivity in the children are valued (Gavilán et al., 2006; Panez et al., 2000), which on the surface does not seem to be conducive to sensitive responsiveness to children's needs. In most Amazonian areas, infant care is exclusively a mother's work, and affection shown trough physical contact is common towards infants (Surrallés, 2009).

The present study aims to contribute to the theoretical debate about universality versus culture-specificity of caregiver-infant interactions, particularly in the case of sensitive responsiveness to infants, in populations others than urban ones that have already been widely studied. Rural versus urban living tends to be associated with lower sensitivity, often ascribed to the generally harsher circumstances in rural areas that are associated with less favorable socioeconomic characteristics and therefore higher levels of stress in parents that are not conducive to child-centered caregiving (Emmen et al., 2013; Mesman et al., 2012). In addition, there is evidence that the urban-rural division is bigger than the divide between urban centers in different parts of the world, and that families from rural areas tend to have parenting attitudes that are more authoritarian and less child-centered (Bornstein et al., 2012).

Even though studies on maternal sensitivity in non-Western communities are limited, recent scholarly work suggests that sensitivity can be found across cultures, including rural ones where the manifestations of sensitivity are more physical and subtle than in urban communities (Mesman et al., 2018). Similarly, there is evidence that specific parental responses to children's signal may vary between cultural groups (Bornstein et al., 1992; Kärtner et al., 2010). Nevertheless, the extent to which sensitive caregiving is practiced may vary between

communities and cultures, depending on their specific circumstances (Mesman et al., 2012; Mesman, van IJzendoorn, & Sagi-Schwartz, 2016). This leaves us with potentially opposing ideas: (a) parenting in rural communities is harsh and less sensitive, versus (b) sensitivity is present in rural areas, but it looks different than it does in urban areas. Studies on maternal sensitivity in rural Peru are virtually absent. In one study con- ducted in the Andean area, maternal beliefs about the ideal mother and the congruence of these beliefs with attachment theory's notion of the sensitive mother was tested. Beliefs about the ideal mother of Peruvian mothers from urban Lima were more congruent with the notion of the sensitively responsive mother, than ideal-mother beliefs of mothers from rural Puno (Mesman, van IJzendoorn, Behrens et al., 2016). To our knowledge, there are no observational studies on sensitivity or related constructs conducted in rural Peru. Thus, we currently still know very little about the levels and manifestations of sensitivity there. The lack of studies is likely to be due to the difficulties of recruiting families in those regions for this type of research. Not only are many rural areas physically difficult to reach, unfamiliarity with the methods of scientific research and non-clock- bound caregiving routines are likely to place practical constraints on actual data collection and the ecological validity of the data. For this reason, observing a variety of situations for extended periods of time can be a good strategy to reduce social desirability and to increase ecological validity.

The relevance of studying sensitivity in rural Peru is illustrated by the results of a recent national study on mother-reports of early child development that showed rural children to be clearly disadvantaged in comparison to urban ones (Instituto Nacional de Estadística e Informática, 2019). These results support the necessity of conducting exploratory studies that provide insights into the quality and nature of interactions between rural mothers and their young children, as a starting point for understanding how these interactions might contribute to child development. Thus, the current exploratory study aims to quantitatively rate and qualitatively describe sensitivity and its manifestations in rural Andean and Amazonian mothers in Peru.

Method

Participants

A total of 12 mother-child dyads from two geographic regions in Peru participated. Six from a rural Andean community in Tambillo District (Huamanga-Ayacucho) and six from a rural Amazonian community in Indiana District (Maynas-Loreto). Participants were recruited

through contact with health promoters and local community leaders in their areas, who had a record of the children in the area. Families with a child under two years of age were identified, visited at home, and if located were invited to collaborate in a study aiming to describe parent-infant interactions in their communities. In both regions, the first six mothers who were approached by a research team member agreed to participate. The response rate was therefore 100%. There was only one dropout: one mother, who first agreed to participate, decided to quit after the second observation, because she did not have time during the scheduled days to accommodate the visits because of work reasons. After that, another mother in the Andean area was invited to participate, and she agreed and stayed in the study.

Children's average age was 9.42 months (SD = 5.09, range: 4–21), and five of the twelve infants were male. In one case the focus child was the only child in the family, in all the other cases it was the youngest child in the family (the second in six cases, the third in four cases, and the sixth in one case). In three cases parents of the focus child were married, in seven cases they were unmarried but residential partners, and in two cases the mother was single. The mean age of mothers was 28.25 years (SD = 6.39, range: 19–42). Half of the mothers did not finish high school, and of those who did, two started vocational education but did not finish them, and in one case finished technical education. Mothers' time was spent mostly on household tasks, and tending the land and animals. Fathers' average age was 33.08 year (SD = 7.09, range: 20–46). Five fathers did not finish high school, four finished high school, and three started vocational or university studies, one of them did not finish his studies. These characteristics are representative of the rural populations in Ayacucho and Loreto, where most children live with married or cohabiting parents, where at least half of adults have not finished high school, and the main activities of mothers are household tasks, working the land, and taking care of animals. The living circumstances of the families were also typical for the two areas: most lived in very modest dwellings with televisions but without household machines such as fridges or washing machines, and without cars. In Ayacucho the dwellings typically have dirt floors, and in Loreto floors are made from wood, whereas in both places the roofs are made of calamine, which was also what was observed in the current sample.

Video observation procedure

A group of three (women) and four (three women and one man) Peruvian psychologist conducted the filming in the Andes and the Amazon areas, respectively, during a one-week period in each location. A one-hour flight from Lima to Ayacucho, followed by a daily 30 minutes car ride was necessary to get to Tambillo in the Andes, which is a small town around 12 km away from the nearest city. Communities in Tambillo tend to consist of groups of family

houses surrounded by harvested or free land. For data collection in the Amazon, a one-and-a-half-hour flight from Lima to Iquitos, followed by a one-hour boat trip was necessary to get to the town of Indiana. In this case, researchers stayed at the community because it was expensive and time-consuming to travel to Indiana every day. Indiana is a small town 36 km away from the nearest city, which can only be reached by water. In this town all family houses are close to each other, so the beginning and end of the community can be clearly identified.

All filming was conducted mainly at the families' houses, taking into account that houses in the Andean area composed of two or three separate rooms with a common area that connects them. In some cases, filming included following the focus infant and a caregiver out of the house and going to areas where the adults usually work the land. The instructions to the families were to do what they usually do at that time and try to ignore our presence. We also indicated we were going to follow them with the camera if they move around. For each family we conducted between four to six visits, depending on the availability of the mothers during the period that the researchers were in the com- munity. The filming sessions lasted between 13 and 60 minutes, in total yielding on average 3 hours of video per dyad (range 2 to 4 hours). The shortest videos were made due to technical problems or because the focus child fell asleep soon after the beginning of the observation, and all visits took place one to two days apart in a one-week period.

All participants were informed of the purpose of the filming and provided informed consent (in writing or verbally). At the end of the last visit, they all received some basic food supplies as acknowledgment for their participation.

Video coding

Maternal sensitivity was coded using the Ainsworth sensitivity scale (1–9), which deals with the caregiver's ability to perceive and interpret accurately child's signals, as well as to respond to them appropriately and promptly (Ainsworth et al., 1974). Additionally, scores were given to three interactional variables. Warmth scores on a 0–4 range and refers to warm interactions which could be expressed physically (hugs, kissed, caresses, gentle holding), verbally (terms of endearment, praising, expressing love and affection), or with facial expressions (smiling). Physical interaction, scored on a 0–2 range refers to physical contact which includes touching and holding the focus child, regardless of the quality of this interaction. And verbal interaction, also scored on a 0–2 range includes verbal expressions as talking and whispering that is aimed at the focus child, regardless of the quality of the interaction.

We also coded camera-related behaviors to explore the potential effects of the use of a camera in these communities. Because these populations are not used to this type of studies and to being videotaped, checking to which extent the mothers appeared to be aware of the camera can inform future studies about this method in this population. Three camera-related behaviors were rated, all on a 0–2 scale and coded in the first 15 minutes. Looking at the camera includes counting the number of times that a mother looks deliberately at the camera (0 = Never or rarely, 1 = Several times, 2 = Many times). Talking about being filmed includes mentioning to the child or others that the child is being filmed, talking to the camera person about being filmed, talking about how long the filming is taking, or trying to get the child to do something for the camera (0 = Never, 1 = Sometimes, 2 = Several times). Expressing insecurity about being filmed includes explicitly saying to the camera person that she does not know what to do, asking what to do next, or asking whether an activity is right or not while being filmed (0 = Never, 1 = Sometimes, 2 = Several times).

Coding of the Ainsworth scales was done by the first author (who is from Peru) and the last author. The first author was trained by the last author who is an expert coder of sensitivity. The initial reliability set for the Ainsworth scale consisted of 10 naturalistic 15- min videos of mother–child interactions from another non-Western culture (subtitled), and intercoder reliability (intraclass correlation) was .73. Then, all 12 cases of the current study were rated independently by both the first and last author. Because of the restricted range of the scores (almost all mothers were highly sensitive), intraclass correlations were on the low side with .60 for sensitivity. In terms of agreement 8 out of the 12 scores were identical or had only a 1-point difference, and 4 had a 2-point difference, mostly between scores 6 and 8. These differences were settled through discussion and resulted in a consensus score.

The other scales (warmth, physical interaction, verbal interaction, and looking at the camera) were also coded by both the first and last author and intercoder reliability (intraclass correlation) was .72 for warmth, .90 for physical interaction, .78 for verbal interactions, and .88 for mother looking at the camera. After discussion consensus scores were constructed for reporting. Camera-related behaviors as talking about being filmed and expressing insecurity about being filmed were only coded by the first author due to language restrictions.

Results

Figure 1 shows the mothers' scores for the Sensitivity. The overall average was 7.33 (SD = 1.50). Most notably, seven out of the twelve mothers scored in the high range (scores 7–9) of Sensitivity, and the remaining five in the good-enough range (scores 5–6). Qualitative analyses of the videos were conducted to identify the situations and contexts in which sensitive responsiveness appeared most prominently. Four such con- texts stood out: daily caregiving routines such as bathing or feeding, play interactions, competing demands (or multitasking), and the presence of a network of caregivers. Below we will present brief qualitative descriptions of representative cases to illustrate the manifestations of the observed sensitive interactions in each of the mentioned situations.

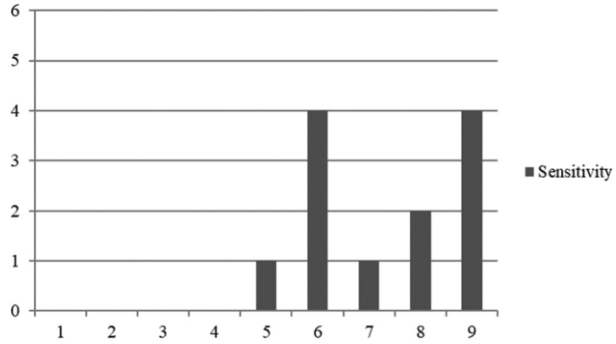

FIGURE 1 Frequency of sensitivity scores (1 – Highly Insensitive, to 9 – Highly Sensitive).

Daily caregiving routines

In contrast to what the label "routines" suggests, most daily caregiving activities, such as bathing and feeding were very flexible in nature. The overall impression is that the mothers did not insist on a particular time, order, tempo, or approach, allowing for very child-centered interactions during these caregiving activities. An important moment for the observation of mothers-infant interactions is bathing time. Nine out of the twelve mothers bathed their infant during videotaping. The following example is from a mother and her 7-month-old infant in the Andean area and shows how sensitivity to child signals is central in this particular caregiving task.

> Mother has the infant sitting on her lap. In front of them is the bath tub on the floor. Mother tries to wash the infant's hair while she is sitting in her lap. The infant reaches her leg toward the tub. Mother tells her to wait until she finishes washing

> her hair. The infant continues to reach her leg towards the tub, this time more urgently. Mother puts the infant in the bath tub. The infant makes a subtle movement to complain about the water on her face. Mother looks for a cloth and dries the infant's face. Mother continues bathing the infant and when she holds the infant's arms to wash them, the infant tries to struggle loose. Mother washes the infant's arms quickly and releases them. The infant from time to time looks or moves her body in the direction of a toy or the shampoo bottle that are in the bath tub, and every time this happens the mother gives the desired objects to the infant.

Bathing is sometimes a stressful situation for mothers and infants, but mothers in this sample generally allowed the infant to set the pace so that the infant did not get unnecessarily upset during bath time. In this specific case, mother takes her time and follows the infant's signals, from when she wanted to get into the bathtub, to when she wants to play with something. The appropriate responses of the mother make the bathing experience a relaxed and positive routine activity.

Another important routine activity observed was feeding time. All the observed mothers breastfed or fed their child solid foods more than once during the observations. In the case of mothers who were still breastfeeding their child, this was invariably done on demand (which in itself reflects sensitive responsiveness). Whenever the infant indicated a wish to drink and whenever the child was upset and needed a mother's comfort, the mother would offer her breast. But sensitivity was also observed during mealtimes with solid food. A video from the Amazonian area illustrates how a mother is very patient and follows her daughter when giving the child her lunch meal. The following happens:

> Mother, her 16-month-old daughter, and two older children are sitting on the wooden floor in the common room of the house. The mother gives the infant a spoonful with noodles and then waits for the infant to finish what she is chewing before offering her another bite. The sequence is repeated several times. The infant looks at the older girl cousin and smiles to the mother. The mother notices the interest of the infant in what the girl is eating, and comments on this and smiles. The infant smiles back. The infant gets distracted by the older brother who is carrying a puppy. Mother stops feeding, follows the infant's gaze and comments on the dog. When the infant's attention is back to the food, mother offers another bite. Then the cousin starts making funny noises at the infant who thinks this is very funny and engages in playful interaction with the girl. The mother smiles at the children, and patiently waits until the infant's attention is again with the food, and only then offers another bite. A little later, the infant points to the drink and the mother gives it to her immediately. The infant drinks and then hands the bottle

> back to the mother. The mother holds it and puts it back on the floor. The mother gives the infant another spoonful. The infant points at the drink again and the mother tells her she will have a sip after the next bite, the infant nods her head. A little bit later, when the plate is almost finished, the infant gets distracted by new people who arrive, gets up and starts walking around. Mother asks her if she is done eating and the infant confirms with a big smile.

The mother in this example was no exception in her patient and child-centered way of handling mealtime. This is probably facilitated by the flexible approach to meals that was observed in the sample as a whole. Mothers do not necessarily expect infants to sit and eat in a fixed place during a fixed time when everybody else is also eating, but instead follow what seems to fit the infant's needs at a particular time. Even if they have a feeding chair, it is moved around the house to suit the time and situation in which feeding is decided to take place. Feeding was therefore a very child-centered activity in most families.

Play interactions

Playtime is a moment of free interaction that is often used in Western countries as a setting in which to observe sensitivity. Although the mother-child play is less common in many non-Western cultures (Roopnarine & Davidson, 2015), it was observed to some extent in most of the mother-infant dyads in this study. Play often involved a single simple toy, or just objects in the environment. Play in and of itself is not necessarily sensitive. When engaging in play without minding the child's signals, maternal behavior in this context can be insensitive and intrusive. However, in the current sample, play interactions were almost without fail sensitive in nature. Similar to what was observed for daily caregiving routines, mothers were very child-centered and flexible, and did not insist on a particular game, a particular way to use toys, or persist in games that the child did not seem interested in. To illustrate, we describe a 14-min interaction of a dyad from the Andean area below.

> Mother and her 5-month-old daughter are in the common area in the middle of the house, on a mat covered with a blanket. The infant is lying down facing upwards and the mother is seated next to her. The infant is holding a rattle; she moves it a bit and takes it to her mouth. Mother pays attention to the infant, plays with her and retrieves the same or another rattle for the infant every time the infant drops it. At some point the infant is sitting next to the mother and is playing with a doll, while the mother is making a pony tail in the infant's hair. The infant starts making some fussy sounds so mother finishes the task quickly, picks the infant up and

> moves her closer to her. The infant leans forward as if trying to reach the rattles. Mother takes the rattles and a doll, and puts them close to the infant. The infant continues making fussy sounds and leans forward. Mother repositions her, but the infant continues complaining. The infant leans forward in the direction of the doll. Mother helps the infant to get to the doll. The infant calms down and plays with the doll.

This mother from the Andean area scored in the high range of sensitivity. Even though the interactions were mostly non-verbal, she showed to be very child-centered and accurate in reading her daughter's signals and responded to them appropriately. Again, a notable feature of the interaction was patiently taking time to see what the infant wants to do and mother adapting her behavior accordingly in steps towards the "correct" response as evidenced by a content child.

Competing demands and multitasking

Another context, in which maternal sensitivity was observed, was one where mothers were busy doing a variety of other tasks. The earlier descriptions of mothers taking their time might give the impression that they simply did not have much else to do than watch their infants, but this was not the case. Housework, taking care of other children, selling in the store at home, going to work the land, and other tasks were part of the daily routine of this group of mothers. Such competing demands are usually seen as a potential source of insensitivity, given that mothers would need to divide their attention, and may miss a child's signals or fail to respond to them. Interestingly, all these simultaneous responsibilities that provide the caregiving context in this community did not or only minimally hinder the mothers in being sensitive in the interaction with their infants. The following observation of the same mother from the Andean area and her infant in the previous example illustrates this:

> The infant, her mother, and a 4-year-old cousin of the infant are sitting at the river bank while the mother is washing clothes in the river. The infant is lying down on a blanket next to the mother. Mother very regularly looks to the side to monitor her infant's state and needs while she washes the clothes, and at the same time gives some instructions to the 4-year-old on how to do the washing. Every time the infant makes fussy sounds, the mother checks on her, offers her a rattle or fixes her hat that is bothering her. Such sequences of responsiveness are repeated several times. After a while the infant is leaning against the mother and moves her head in the direction of the mother's breast. Mother stops scrubbing the laundry and repositions the infant so that the infant is in her lap drinking from her breast, while

> she still has her arms free to do the laundry. Mother looks at the infant from time to time to make sure she is doing fine and whenever the infant fusses the mother changes her position to make the infant more comfortable.

All mothers observed had other tasks than taking care of the infant during at least part of the observations. In all of the Andean observations, we noted the use of the *lliclla* as an important tool that allows mothers to carry their infants while doing some other activity. One of the mothers went to collect some herbs from the farm with her daughter on her back and returned with her daughter on her chest because the herbs were now on her back. It was also common to have the infants on their backs while doing some activities inside their homes or when going out to some other places. Clearly, these were not mothers with plenty of free time. On the contrary, they have many daily responsibilities. Nonetheless, almost all of them reached high scores on the sensitive responsiveness scale as they were able to combine work with responsive care.

One notable exception was a case from the Amazonian area where the mother was not able to combine sensitive infant care with other responsibilities, even though she was very sensitive when no other tasks presented themselves. Consider, for example, the following 25-min interaction between a mother and her 6-month-old infant from the Amazonian area that takes place in the back area of the store that the family runs:

> The mother is seated in a rocking chair and the infant is on her lap, they are in the living room. For around three minutes the infant moves from one position to another and the mother helps him to reposition. The infant leans forward a bit in the direction of the floor. Mother helps him to get down and holds him up next to her. The mother facilitates the infant's movements while holding him. A customer arrives at the store. Mother abruptly stands up and carries the infant to the playpen and puts him in. The infant immediately cries loudly. After a few moments the mother finishes with the customer and takes the infant out of the playpen. The infant takes a few seconds to stop fussing. Mother offers the infant a rattle and walks him around the living room, while paying attention to him. In the meantime, two other customers come into the store and the mother attends to them while carrying the infant. The infant is content. Then mother sits in the rocking chair in front of the television. The infant watches television while playing with the rattle and mother is checking the infant from time to time to make sure he is still comfortable. A new customer comes into the store and the mother puts the infant in the playpen again. The infant immediately cries loudly. Mother finishes with the

customer and picks the infant up. This time infant takes around a minute to stop fussing.

Even though the mother needed to attend the customer, the experience of the infant is that suddenly he is left and his needs are not attended to. This mother was not able to handle the infant and the store-work demands simultaneously. Her case was a perfect example of Ainsworth's description of a score 5: "What is striking is that a mother who can be as sensitive as she is on so many occasions can be so insensitive on other occasions". An important factor is that mother did not have anybody to help her with the infant while she worked in the store. This was a rare case where other caregivers were almost completely absent in the two and a half-hours observation. It was primarily the mother alone with her infant son. Only during the last observation did a female neighbor came into the house to visit mother and took care of the infant for a very short time while the mother was working in the store. This suggests the importance of having some "helpers at the nest" and the role that non-maternal caregivers performed in the daily care activities of infants, especially when other tasks also need to be done.

Network of caregivers

As mentioned, non-maternal caregivers were present in all cases, albeit more in some than in others, and provide an important contextual backdrop against which to under- stand maternal sensitivity in these communities. Frequently seen non-maternal caregivers were older siblings and cousins (all cases), one or more grandparents (seven cases), fathers (five cases), and aunts, uncles, or neighbors (four cases). The shared caregiving was naturally handled by the majority of the families observed. Even when someone else was in charge of the infant's care, it was as an implied rule that the mother would take over again whenever she was needed, which was observed several times in the videos.

This was observed in the interaction of a mother and her 7-month-old son from the Andean area. In two opportunities mother left the boy with his siblings and cousins (between 7- and 12-years-old) for approximately 10 min each time while she was doing other tasks in the adjoining space. Even though the boy was distracted and well attended by the children in-charge, as time passed by some subtle fussy sounds were issued. In both occasions mother quickly noticed them before the boy needed to complain more and got ready to take the boy with her, either to change his diaper or to breastfeed him.

Counting on non-maternal caregivers allows mothers to be more sensitive when it is her turn to be with the infant, and it also allows the infant to have someone who is willing to attend to its signals when the mother is not available, so that in effect the mother has arranged sensitive care for her infant in her absence. Additionally, we observed a father from the Andean area following his 10-month-old daughter signals. The father tries to sit the infant in the bed while he gets something of the other side of the room. The infant gets on her knees and moves toward the edge of the bed. Father returns immediately and holds the infant's hand and helps her to get out of the bed. Another case was an uncle from the Amazonian area who takes care of his 14-month-old nephew. The infant is lying on the uncle's chest and they are both in a hammock in the middle of the living room. When the infant starts to get distracted, the uncle helps him to get out of the hammock and holds him so that he can stay up next to the hammock. The uncle rearranges his position every time the infant demands it.

Finally, we observed the interaction between an infant and its adolescent male cousin in the Andean sample. The cousin holds the baby while sitting and standing outside for about 25 minutes while the mother is doing the laundry. During all this time the cousin shows many sensitively responsive actions, as illustrated in the following example:

> The cousin has the infant on his lap and they are both seated in front of the mother. The infant makes a sound and moves a little. The cousin tries to accommodate the infant by repositioning. The infant continues to make more fussy sounds, so the cousin stands up, rocks the infant softly and walks some steps to show a dog to the infant. The infant stops fussing and looks at the dog with interest.

The cousin was concentrated on distracting the infant to keep him calm and he used different strategies to succeed. Even though there was no verbal interaction and positive affect was not overtly present, this is a clear example of sensitive responsiveness. The cousin notices the infant's signals and responds to them properly, resulting in the infant ceasing its fussy noises.

All these examples demonstrate how with the help of other non-maternal caregivers, mother is able to accomplish her other daily activities. The presence of sensitive non-maternal caregivers means that mothers do not need to take care of the infant when she needs to do something that really competes with sensitive care. And when she is done, she is fully available again, either with total attention for the infant, or combined with a task that allows for both.

Finally, Table 1 shows the descriptive scores of additional scales. Warmth was also (very) high in 10 out of 12 cases (scores 3 or 4 on the scale), whereas physical interaction was mixed with

five mothers showing high physical contact (score 2), six scoring medium (score 1), and one low (score 0). The medium scores reflected the fact that infants were also often in strollers, playing on the floor, or held by others rather than mother. The lowest score was for the oldest child in the sample (aged 21 months) and was only held for things like feeding. Only one mother talked frequently to the child (score 2 on Verbal interaction), whereas most mothers (seven) talked to the child sometimes but not the majority of the time, and four hardly talked to the child at all (score 0). Camera awareness was very low in the sample. In the first 15 minutes, seven out of 12 mothers hardly ever looked at the camera or only fleetingly once or twice (score ‘0′ on the Camera-looking variable). Two mothers looked at the camera up to five times (score ‘1′), and three mothers more than five times (score ‘2′). The scale was not scored after the first 15 minutes, but it was clear that as videotaping progressed, looks at the camera significantly diminished and was virtually absent for all mothers in the later stages of filming. Camera-related behavior as talking about being filmed and expressing insecurity about being filmed was not observed in any of the cases, all mothers scored 0. In a couple of cases mothers were talking about being filmed, but that was only to explain to someone who just arrived what was going on or because they noticed the child was interested in the video camera.

TABLE 1 Descriptive statistics for the additional observation scales.

	M	SD	Range
Warmth	3.17	.94	1–4
Physical Interaction	1.33	.65	0–2
Verbal Interaction	.75	.62	0–2
Looking at the Camera	.67	.89	0–2
Talking about being filmed	0	0	0–2
Expressing insecurity about being filmed	0	0	0–2

Discussion

Observation studies on sensitivity are rare in non-Western community (Mesman & Emmen, 2013). Even though in Peru some studies have been carried out in the last years, all of them are with urban populations (Conde et al., 2017; Nóblega et al., 2016, 2018). For this reason, despite the small number of participants, this study represents an important first step to understanding nature and context of sensitive caregiving in these rural communities. The analyses of the videos collected for this study showed that these mothers from rural Andean and Amazonian areas in Peru appeared to be very comfortable being filmed, showing hardly any camera shyness or insecurities. This finding provides support for the integrity of the information gathered.

Almost all mothers scored in the higher range of sensitivity scale. These high levels of sensitivity were not expected due to the relatively harsh economic conditions of these rural areas. A review of studies with ethnic minority families showed that these groups' sensitivity was generally lower than that of ethnic majority families, thought to be due to higher stress levels related to socioeconomic disadvantage (Mesman et al., 2012). In addition, previous studies with Peruvian mothers had found quite low levels of sensitivity, especially mothers from low socio-economic status (Conde et al., 2017). Furthermore, other studies have found evidence of predominantly authoritarian parenting styles among these communities, particularly in rural Andean areas, and relatively low levels of child development knowledge (Gavilán et al., 2006; Panez et al., 2000), which would also be expected to co-occur with lower levels of sensitive caregiving. Qualitative descriptions of parts of visits allow us to illustrate some manifestations of this highly sensitive group of mothers, as well as some possible cultural-specific practices that may contribute to these mothers ability to be baby-centered, including a flexible approach to caregiving routines, the custom of carrying babies when busy with competing demands such as household work allowing for multitasking, the presence of a supportive network of caregivers, and tendency to be sensitive with young children.

First, we observed a clear flexibility during the caregiving routines. As shown in the results sections, these mothers were highly attuned to their infants pace during these activities. The majority of them were able to respect and follow their infants signals while doing some daily care activities as bathing, feeding solid food, or breastfeeding their infants. It is important to mention here that the absence of fixed schedules, non-clock- bound caregiving routines, and set places to perform those activities made the interactions very smooth and appeared to make it easier for mothers to adjust their behavior to infant demands.

Another important element that may be contributing to higher scores could be related to the proximity that the regular use of *lliclla*s allows to Andean mothers. These blankets that mothers use to carry their babies in their back and that helps them to keep the infant close while they are doing some other activities, could improve the ability of the mother to be aware of infant signals. This result is in line with the finding of a systematic review showing that kangaroo care, characterized by close physical contact between parent and child, promotes positive parent–child interactions (Athanasopoulou & Fox, 2014). During the observations, all the mothers from the Andean area used the *lliclla* at least once and during that time children seem to be comfortable and calm, rarely showing any signals suggesting that being that close to their mothers was good enough. Whereas physical contact was high, verbal interaction was not so common. However, as the case descriptions show, some

mothers were observed to comment on their children's focus of interest. Verbal commentaries on the child's state of mind are indicative of mind-mindedness, which therefore might not be an exclusively Western construct (Keller, 2017).

Third, an extended network of caregivers was present in the daily routines of almost all of these families. In this way, mothers were able to share the responsibility with some other adults and also children. The extended families and the support they bring in the rearing process of infants is a common characteristic in these rural communities (Bolton, 2010; Panez et al., 2000). As we already mentioned, being able to share the care of the infant with other caregivers, even for short periods, allows mothers to be more sensitive when it is their turn. It is like a pause moment that allows them to finish tasks and be ready the next time they have to be in charge. Importantly however, mothers were clearly the main caregivers, whereas the others mostly had the role of childminder when mothers were otherwise occupied. This is also the reason why we coded maternal sensitivity rather than received sensitivity (Mesman, Minter et al., 2016): in the majority of videos one person was "in charge" at any time, so multiple caregiving was sequential rather than simultaneous. Maternal sensitivity could thus be coded for those parts of the videos where she was present and "in charge."

Finally, one additional factor that might be related to the somewhat unexpected high levels of sensitivity is child age. The target sample consisted of infants aged 4 to 21 months, who are still mostly dependent on caregivers, being carried by caregivers, and receiving breastfeeding. As the scores have shown, they were almost all treated very sensitively. However, the observers did notice that the behavior towards older children was less sensitive than towards infants, and did include some harsh parenting behaviors. In rural Peru, the difference between a dependent infant and an independent child can be quite sudden (often sparked by new pregnancies or the birth of a new baby), and appears to signal a transition to a less attentive parenting style. As found in several studies in Peru, affection shown trough physical contact is common towards infants and indeed expected of mothers, but as children transition from infancy into toddlerhood and into preschool age, they will be expected to be more independent and start to be treated with more harshness, especially by fathers (Gavilán et al., 2006; Panez et al., 2000; Surrallés, 2009). Larger longitudinal studies are needed to test this hypothesized transition.

The strengths of this study include the standardized coding and in-depth qualitative analysis of extensive observations of mother-infant interactions in cultural communities in rural Peru that have never before been included in video observation studies of parenting. Moreover,

the fact that this study identified activities and situations in which sensitivity was prominent that were similar to the activities represented in the Maternal Behaviour Q-sort (Pederson et al., 1999), suggests some universality in the importance of these activities. Some limitations also need to be mentioned. The very small sample size limits the robustness of the quantitative results and precludes testing differences in sensitivity between the two communities. Further studies should aim to include larger samples from different regions to more fully understand the role of specific cultural practices in sensitive caregiving. Importantly, the response rate in this study was 100% suggesting minimal self- selection effects. It appeared that the community as a whole had a rather positive attitude towards strangers and did not seem insecure about their parenting qualities.

In conclusion, this study´s results allow us to query the expected outcomes related to mother´s sensitivity from rural areas, which were supposed to be low. The unexpected high scores undermine the argument that harsher conditions, low socioeconomic status, and stress in parents from rural areas necessarily lead to less child-centered caregivers and consequently lower sensitivity. It seems that the particular cultural caregiving context of these rural communities, such as its openness to strangers (i.e., the researchers), and their mostly relaxed and flexible daily routines may have contributed to their high sensitivity levels towards their infants. This is new and very important information related to rural Andean and Amazonian areas that are not usually part of this kind of studies. This study further emphasizes the importance of continuing to incorporate non-Western samples that allow us to describe and understand their caregiving interactions that may be unique in quality but potentially universal in their function.

References

Ainsworth, M. D. S., Bell, S. M., & Stayton, D. J. (1974). Infant–Mother attachment and social development. In M. P. Richards (Ed.), *The introduction of the child into a social world* (pp. 99–135). Cambridge University Press.

Anderson, J. (2016). *Informe País sobre los Determinantes de la Violencia que afecta a los Niños, Niñas y Adolescentes* [Country Report on the Determinants of Violence that Affects Children and Adolescents]. Centro de Investigaciones Sociológicas, Económicas y Antropológicas (CISEPA), Pontifica Universidad Católica del Perú.

Athanasopoulou, E., & Fox, J. R. E. (2014). Effects of kangaroo mother care on maternal mood and interaction patterns between parents and their preterm, low birth weight infants: A systematic review. *Infant Mental Health Journal*, *35*(3), 245–262. https://doi.org/10.1002/imhj.21444

Bolton, R. (2010). *La vida familiar en comunidades andinas* [Family life in Andean communities]. Editorial Horizonte.

Bornstein, M. H., Putnick, D. L., Suwalsky, J. T. D., Venuto, P., De Falco, S., Zingman de Galperin, C., Heslington Tichovolsky, M. H., & Gini, M. (2012). Emotional relationships in mothers and infants: Culture-common and culture-specific characteristics of dyads from rural and metropolitan set- tings in Argentina, Italy, and the United States. *Journal of Cross-cultural Psychology*, *43*(2), 171–197. https://doi.org/10.1177/0022022110388563

Bornstein, M. H., Tamis-LeMonda, C. S., Tal, J., Ludemann, P., Toda, S., Rahn, C. W., Pecheux, M.-G., Azuma, H., & Vardi, D. (1992). Maternal responsiveness to infants in three societies: The United States, France, and Japan. *Child Development*, *63*(4), 808. https://doi.org/10.2307/1131235

Conde, G., Nóblega, M., Mendoza, C., Nuñez Del Prado, J., & Bárrig, P. (2017). Maternal sensitivity, attachment and socioemotional competence of preschoolers from low socioeconomic Status from Lima, Peru. In *Conference: Biennal Meeting - Society for Reserch in Child Development*, https:// doi.org/10.13140/RG.2.2.36335.43685

Coohey, C. (2001). The relationship between familism and child maltreatment in Latino and Anglo families. *Child Maltreatment*, *6*(2), 130–141. https://doi.org/10.1177/1077559501006002005

Dixon, S., Graber, J., & Brooks-Gunn, J. (2008). The roles of respect for parental authority and parenting practices in parent-child conflict Among African American, Latino and European American families. *Journal of Family Psychology*, *22*(1), 1–10. https://doi.org/10.1037/0893-3200. 22.1.1

Domenech, M., Donovick, M., & Crowley, S. (2009). Parenting Styles in a Cultural Context: Observations of ‘‘Protective Parenting’’ in First-Generation Latinos. *Family Process*, *48*(2), 195–210. https://doi.org/10.1111/j.1545-5300.2009.01277.x

Emmen, R. A. G., Malda, M., Mesman, J., van IJzendoorn, M. H., Prevoo, M. J., & Yeniad, N. (2013). Socioeconomic status and parenting in ethnic minority families: Testing a

minority family stress model. *Journal of Family Psychology*, *27*(6), 896–904. https://doi.org/10.1037/a0034693

Gavilán, V., Vigueras, P., Carrasco, A., Cabezas, R., Escobar, M., & Mamani, C. (2006). *Pautas de crianza aymara. Estudio "Significaciones, actitudes y prácticas de familias aymaras en relación a la crianza y cuidado infantil de los niños y niñas desde la gestación hasta los diez años"* [Aymara caregiving patterns. Study "Meanings, attitudes and practices of Aymara families in relation to the upbringing and caregiving of boys and girls from gestation to ten years"]. Universidad Arturo Prat, Centro de Investigaciones para el Desarrollo del Hombre en el Desierto (CIHDE). https://www.academia.edu/25432376/Pautas_de_crianza_aymara

Harwood, R., Leyendecker, B., Carlson, V., Asencio, M., & Miller, A. (2002). Parenting among Latino families in the U.S. In M. Bornstein (Ed.), *Handbook of parenting* (Vol. IV, pp. 21–47). Lawrence Erlbaum Associates.

Hurtado, A., Lambourne, C., James, P., Hill, K., Cheman, K., & Baca, K. (2005). Human rights, biomedical science, and infectious diseases Among South American Indigenous Groups. *Annual Review of Anthropology*, *34*(1), 639–665. https://doi.org/10.1146/annurev.anthro.32.061002.093406

Instituto Nacional de Estadística e Informática. (2017a). *Encuesta Nacional y de Salud Familiar 2016 (ENDES)* [National and Family health Survey 2016 (ENDES)]. INEI.

Instituto Nacional de Estadística e Informática. (2017b). *Informe técnico. Condiciones de vida en el Perú. Octubre-Noviembre-Diciembre 2016* [Technical report. Living conditions in Peru. October-November-December 2016]. INEI.

Instituto Nacional de Estadística e Informática. (2019). *Desarrollo Infantil Temprano en niñas y niños menores de 6 años de edad. ENDES 2018* [Early Childhood Development in girls and boys under 6 years of age. ENDES 2018]. INEI.

Kärtner, J., Keller, H., & Yovsi, R. D. (2010). Mother-infant interaction during the first 3 months: The emergence of culture-specific contingency patterns. *Child Development, 81*(2), 540–554. https:// doi.org/10.1111/j.1467-8624.2009.01414.x

Keller, H. (2017). Culture and development: A systematic relationship. *Perspectives on Psychological Science*, *12*(5), 833–840. https://doi.org/10.1177/1745691617704097

Larraín, S., & Bascuñán, C. (2009). *Maltrato infantil: Una dolorosa realidad puertas adentro. Desafíos: Boletín de la infancia y la adolescencia sobre el avance de los objetivos de desarrollo del Milenio* [Child abuse: A painful reality indoors. Challenges: Newsletter for children and adolescents on the advancement of the Millennium Development Goals]. Naciones Unidas-CEPAL-UNICEF.

López, C., Herrera-Amighetti, L. D., Wissow, L. S., Gutierrez, M. I., & Maddaleno, M. (2000). Parenting and physical punishment: Primary care interventions in Latin America. *Revista Panamericana de Salud Pública, 8*(4), 257–267. https://doi.org/10.1590/S1020-49892000000900005

Mesman, J., van IJzendoorn, M. H., & Sagi-Schwartz, A. (2016). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.),

Handbook of attachment: Theory, research, and clinical applications (3rd ed., pp. 852–877). Guilford.

Mesman, J., & Emmen, R. A. G. (2013). Mary Ainsworth's legacy: A systematic review of observational instruments measuring parental sensitivity. *Attachment & Human Development, 15*(5–6), 485–506. https://doi.org/10.1080/14616734.2013.820900

Mesman, J., Minter, T., & Angnged, A. (2016). Received sensitivity: Adapting Ainsworth's scale to capture sensitivity in a multiple-caregiver context. *Attachment & Human Development, 18*(2), 101–114. https://doi.org/10.1080/14616734.2015.1133681

Mesman, J., Minter, T., Angnged, A., Cissé, I., Salali, G. G., & Migliano, A. B. (2018). Universality without uniformity: A culturally inclusive approach to sensitive responsiveness in infant caregiving. *Child Development, 89*(3), 837–850. https://doi.org/10.1111/cdev.12795

Mesman, J., van IJzendoorn, M., Behrens, K., Carbonell, O. A., Cárcamo,R., Cohen-Paraira, I., de la Harpe, C., Ekmekçi, H., Emmen, R. Heidar, J., Kondo-Ikemura, K., Mels, C., Mooya, H., Murtisari, S., Nóblega, M., Ortiz, J.A., Sagi-Schwartz, A., Sichimba, F., Soares, I.,… Zreik, G.. (2016). Is the ideal mother a sensitive mother? Beliefs about early child-hood parenting in mothers across the globe. *International Journal of Behavioral Development, 40*(5), 385–397. https://doi.org/10.1177/0165025415594030

Mesman, J., Van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2012). Unequal in opportunity, equal in process: Parental sensitivity promotes positive child development in ethnic minority families. *Child Development Perspectives, 6*(3), 239–250. https://doi.org/10.1111/j.1750-8606.2011. 00223.x

Nóblega, M., Bárrig, P., Conde, L. G., Nuñez Del Prado, J., Carbonell, O. A., Gonzalez, E., Sasson, E., Weigensberg de Perkal, A., & Bauer, M. (2016). Cuidado materno y seguridad del apego antes del primer año de vida [Maternal care and attachment security before the first year of life]. *Universitas Psychologica, 15*(1), 15–30. https://doi.org/10.11144/Javeriana. upsy15-1.cmsa

Nóblega, M., Bárrig, P., & Fourment, K. (2018). Cuidado Materno y Seguridad del Apego del niño preescolar [Maternal Care and Attachment Security of the preschool child]. *Psicología: Teoria e Pesquisa, 35*(2019), 1–10. https://doi.org/10.1590/0102.3772e3534

Panez, R., Silva, G., & Silva, M. (2000). *Resiliencia en el ande: Un modelo para promoverla en los niños* [Resilience in the Andes: A model to promote it in children]. P&S Ediciones.

Pederson, D., Moran, G., & Bento, S. (1999). *Maternal behaviour Q-sort manual version 3.1*. Department of Psychology, University of Western Ontario.

Pinherio, P. (2006). *Informe Mundial sobre la violencia contra los niños y niñas* [World Report on violence against children]. UNICEF.

Ribotta, B. (2008). *Diagnóstico sociodemográfico de los Pueblo Indígenas de Perú* [Sociodemographic diagnosis of the Indigenous People of Peru]. Comisión Económica para América Latina y el Caribe (CEPAL) – Fundación Ford.

Rizzin, I., Fletes, R., Zamora, M., & Menezes, M. (2006). *Niños, adolescentes, pobreza, marginalidad y violencia en América Latina y el Caribe: Relaciones indisociables* [Children, adolescents, poverty, marginalization and violence in Latin America and the Caribbean: inseparable relationships]. Centro Internacional de Estudios e Investigaciones sobre Infancia – CIESPI.

Roopnarine, J. L., & Davidson, K. L. (2015). Parent-child play across cultures: Advancing play research. *American Journal of Play*, *7*(2), 228–252.

Save the Children. (2003). *Diagnóstico sobre la situación de niñas, niños y adolescentes en 21 países de América Latina* [Diagnosis of the situation of girls, boys and adolescents in 21 Latin American countries]. Save the Children.

Surrallés, A. (2009). *En el corazón del sentido. Percepción, afectividad, acción en los candoshi, alta amazonía* [At the heart of consciousness. Perception, affectivity, action in the candoshi, high amazon]. IWGIA.