

The Expression of Emotional Warmth: Ethnotheories of Rural and Urban Indian Mothers and Grandmothers

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Abstract

In this thesis ethnotheories on the expression of emotional warmth towards babies were studied, considering socio-economic and cultural factors. It was proposed that the more caregivers emphasize relatedness as a socialization goal the more emphasis they were expected to put on the expression of emotional warmth. Furthermore, the modality, in which emotional warmth is perceived to be ideally expressed, was expected to be related to the extent the participants want to foster autonomy, operationalized here as formal education. Autonomy-fostering caregivers were expected to stress distal modes of expressing emotional warmth more, than less autonomy-fostering caregivers. In the thesis these two hypotheses were tested with mothers (and grandmothers) of three-month-old children from Germany, USA, urban and rural India. The hypotheses were predominantly confirmed, though some methodological issues (e.g. the comparability of interview data of college educated and illiterate mothers) are reasons for concern.

The applicability of the (Western) psychological theories on the expression of emotional warmth towards infants perceived by Indian caregivers was explored. The Indian caregivers' ethnotheories matched the psychological theories fairly well. However, "playing", a concept that is not part of the Component Model of Parenting which was used as basis for this study, was mentioned fairly frequently. This led to the conclusion that open ended methods are necessary to study communities which are underrepresented in psychological theorizing. This approach proved fruitful in the study of an indigenous concept, namely the concept of the "Evil Eye". Some rural Indian mothers considered looking at the baby while breastfeeding, or praising the baby as a potential danger.

Finally, the different caregivers' roles as perceived by urban Indian mothers and rural Indian mothers and grandmothers were explored. The mother was seen as the most important caregiver for the expression of warmth towards an infant, though rural and urban caregivers disagreed about the reasons for her being special. Other (unspecified) family members were mentioned frequently. Fathers were perceived in different roles by urban and rural mothers, though they agreed on them being providers of vocal or verbal stimulation for the child. The grandmothers did not think that fathers played a major role in the expression of emotional warmth. The mothers regarded the grandmothers as a source of advice and support in child-rearing matters.

Introduction

"Die wirkungsvollste Energiequelle unseres Lebens ist und bleibt die menschliche Wärme."

[The most effective source of energy in our life is and remains human warmth.]

Ferstl, 2004

Emotional warmth is extremely important for humans and it is acknowledged in different cultural communities as a constituent element of human life. Therefore, it is not surprising that emotional warmth, though only one aspect of parenting, has been of particular interest for many scientists in the past decades. Part of this interest stems from the conviction that without emotional warmth, a child's development will be severely hampered. However, it can be assumed that across cultures caregivers' emotional warmth towards their children can vary considerably in the mode or extent of its expression. This is also assumed to be true for the ideas caregivers hold on this topic.

Caregivers' beliefs on child rearing are shaped by what they experience during their lifetime. They socialize children in a way that will make them grow up to be competent members of their communities. The caregivers' perception about which skills are needed and which values are important, forms their way of interacting with the child and what they think about child rearing. Children, on the other hand, start out on developmental pathways which will shape their further development if no major changes occur in their environment. Therefore, studying caregivers' ideas on child rearing, helps to understand, how culture is perpetuated.

The aim of this study is to link similarities and differences in caregivers' ideas on the expression of emotional warmth to pervasive cultural characteristics. Consequently, the study was carried out in four different socio-cultural settings, namely in an urban middle-class

setting in Los Angeles CA (USA), Berlin (Germany) and Delhi (India) and in a farming community in rural Gujarat (India).

In the first chapters of this thesis the theoretical foundation of the study will be introduced. This part has four subsections on parenting behavior, the model of agency and interpersonal distance and how it is related to emotional warmth, caregivers' ethnotheories and child-rearing in India. This leads to the objectives and research questions.

In the method section there is an emphasis on the description of the two Indian research locales. The linguistic difficulties in translating "emotional warmth" into Gujarati are described in the section on materials. The results are presented according to the five main hypotheses and research questions:

- Relatedness and the emphasis on the expression of emotional warmth
- Agency and the modalities of expressing emotional warmth
- Correspondence between Indian mothers' ethnotheories and theoretical psychological conceptions on the expression of emotional warmth
- The evil eye
- The roles of the family members

After presenting the results, they are discussed briefly. A more extensive discussion and conclusion follows in a separate section.

Parenting Behavior

The human child is born as a physiologically premature creature in comparison with other species (Portmann, 1956). According to Portmann (1956) this can be seen from the fact that the newborn can neither walk nor talk, which would be expected of other newborn mammals. He claims that the developmental stage that other mammals have at birth is reached by human infants only when they are one year old. At this age the baby has acquired the species-specific upright stance and basic communication skills. Another argument for the precocity is the human infant's rapid weight and length development during the first year which, Portmann (1956) argues, is more akin to fetal growth trends in other species. There is a sharp bend in the child's growth curve after the first year. The child's growth slows down with the start of the second year, and the growth chart starts resembling that of other primates more closely. Because of the described prematurity, the human child is dependent on the nurturance by others.

Prechtl (1984) agrees that the human infant is born premature but argues that birth arrives approximately two months early. While the neonate's behaviors do not change dramatically from pre- to post-natal life, they undergo a major shift at approximately two months of age. Expressions of this behavioral shift can be seen in an increase in social behaviors such as social smiling and vocalizing. Several aspects of human evolution have been used to explain premature birth in humans. The brain development of the species led to an enlarged head in the human offspring while the upright posture of humans made adaptations of the pelvis necessary. Longer pregnancies were thus hampered by the constrictions the size of the female pelvis posed on the size of the infant (Prechtl, 1984).

Because of the comparatively early birth of the human infant, many developmental processes take place after birth and are open for the influences of the (social) surroundings. The social surrounding of the human infant is characterized especially by parental care. For

the infant this opens the opportunity for diversified learning experiences; as Mayr (1974) puts it: “the longer the period of parental care, the more time will be available for learning” (p. 652). This requires “open genetic programs” that are commonly found in higher mammals, also in humans. He argues that open genetic programs which do not relate specific cues to specific responses can have a selective advantage. Detailed information and experience can be stored through learning and used when similar situations re-occur (Mayr, 1974; Mac Donald, 1993). Finally opportunities to learn from older members of the species are fostered by the infant’s motoric altriciality combined with manifold cognitive capacities of the child (Papousek, Papousek, & Sanford Koester, 1986; Papousek & Papousek, 2002).

The human infant has to be provided with more than mere physical caregiving. It has been known for a long time that human children die when they are deprived of social contacts. Frederick II of Hohenstaufen, Holy Roman Emperor, conducted an experiment in the 13th century in which he wanted to find out which language children acquire naturally if they do not hear any language. However, the children did not survive very long as they were not only deprived of human speech but also of social nurturance through their caregivers (Horst, 1992). The severe effects of deprivation on children’s physical, emotional, and social development have been well documented in more recent times (Spitz, 1949; Bowlby, 1951).

Conditions of deprivation are fairly unusual though because the infant is endowed with capabilities to elicit care which the older humans in the infants’ surrounding are prepared to provide. The infant is born with “babyiness” (“Kindchenschema”) characterized by large eyes, rounded facial features, and a large head, when compared to the body (Lorenz, 1943). Babyiness is also characterized by the infant’s small body and large, pudgy extremities. This babyiness of the infant is perceived as cute by other members of the species and elicits care behaviors (Lorenz, 1943). Infants seem to be particularly attuned to human stimuli. They look at stimuli that resemble human faces longer than at other stimuli (Fantz, 1961). Early on, the infant also starts expressing emotions (e.g. Papousek, Papousek, & Sanford Koester, 1986)

and starts showing (“attachment”) behaviors that are aimed at maintaining or producing closeness with a caregiver (or attachment figure; Bowlby, 1969/78). Among these behaviors are social looking, smiling, vocalizing, crying, and following the caregiver (Bowlby, 1969/78).

Human adults - besides reacting emotionally to the infant’s babyhood (Lorenz, 1943) and showing sensitivities to infants’ cries (Frodi et al., 1978; Frodi & Lamb, 1978) - seem to have an intuitive knowledge of the infant’s needs and abilities (Papousek & Papousek, 1987). They react, for instance, intuitively to the infant’s state expressed by the child’s hand gestures (Papousek & Papousek, 1987). They also match the distance between their own and the infant’s face to the infant’s optimal perception abilities (approximately 20 cm) and show exaggerated mimics towards the infant. (e.g. the “Grußgesicht”, Papousek & Papousek, 2002). Furthermore, they talk in “babytalk” which is characterized by high pitch and large pitch contours, short phrases, elongated vowels, and rhythmicity (Fernald & Simon, 1984; Ratner, 1984). This may help the infant to identify her caregivers and perceive an intended communication (Papousek & Papousek, 2002). The caregiver’s reaction to an infant’s signal also tends to occur within a time span of one second (Papousek & Papousek, 1991), which is assumed to match the child’s memory span (Keller, 2002). The infant’s development therefore generally takes place in the environment of familiar persons, who belong to larger socio-cultural systems (Bronfenbrenner, 1979).

Keller (2000) proposes an approach to categorize caregivers’ behaviors towards infants in the component model of parenting. She describes six parenting systems, namely primary care, body contact, body stimulation, face-to-face behaviors, object stimulation and verbal/vocal interactions. Primary care is the phylogenetically oldest system and consists of behaviors that ensure the physical survival of the child. It contains activities such as feeding, cleaning, dressing the child if the climate requires it and protecting the child from dangers. The body contact system is linked to socialization, aiming at interpersonal closeness and

group cohesion, whereas body stimulation accelerates the achievement of motor milestones which enable the infant to participate in subsistence activities earlier. Face-to-face and verbal interactions seem to differ markedly with caregivers' experiences with formal education (Richman, Miller, & LeVine, 1992; Hoff, 2003; Hoff-Ginsberg & Tardif, 1995). Object stimulation enables the child to gain experience with the non-social world. Some toys (e.g. mobiles or rattles) are particularly suitable for letting the child experience contingency. These experiences are described to foster a sense of agency in the infant.

Moreover, Keller (2000) assumes the existence of interactional mechanisms that qualify the interface between caregiver and infant. The interactional mechanisms described are contingency, warmth, the differential sensitivity towards the child's negative or positive signals and the intensity of attention (i.e. exclusive or shared) towards the child. Contingency consists of the quick reaction to a child's signal. Contingency experiences can occur in one modality or they can be cross- or multi- modal. If the child smiles, the caregiver may smile back or pat the child or do both. Warmth is the affectionate heed that the child experiences through behaviors such as smiling or baby talk. The model differentiates between negative and positive signals. The regulation of negative affect is seen more in the context of primary care, whereas the enhancement of positive affect is seen more as fostering a sense of personal emotions in the child. Whether the child's expression of affect is supported or not is dependent on the infants' cultural community. Some cultural communities believe in the importance of being able to express personal emotions (e.g. reflected in the amount and way in which emotions are referred to; Wang, 2003; Schieffelin & Ochs, 1986), whereas the expression of affect is believed to be disruptive to the functioning of the social group by other cultural communities (Wang, 2003; Bond, 1991). Caregiver's attention can be either focused exclusively on the child or divided between the child and other activities the caregiver is involved in (cf. Rogoff, Mistry, Göncü, & Mosier, 1993).

The parenting systems and interactional mechanisms are assumed to be in the behavioral repertoire of all human beings but individuals and cultural groups differ systematically in how often they employ these behaviors. Although the behaviors are theoretically independent of each other - that is, the frequency of one behavior does not predict the frequency of other behaviors - some behaviors can hardly be accomplished without others. For instance face-to-face interactions can rarely be accomplished in situations in which the caregiver is not paying attention to the infant. Caregivers seem to be in tune with the child and have an explicit (e.g. Keller, Yovsi, & Voelker, 2002) and/or intuitive knowledge (Papousek & Papousek, 1987, 2002) about the effects and quality of parenting. It is relative though, which aspects constitute good parenting. (e.g. Keller, Voelker, & Yovsi, 2005). Research both on cross-cultural and inter-individual differences in parenting has been conducted for a long time and some of the results, especially those related to emotional warmth, will be discussed in the following sections.

Research on Parenting Styles

The approaches to research on parenting systems have differed, but emotional warmth or a related concept has emerged repeatedly as an important aspect of parenting. Some of the attempts to systematize parenting behaviors and the role of emotional warmth in these approaches are portrayed in this section. The different terminology that has been used will be introduced and the relation between emotional warmth and some other concepts which are sometimes seen as related will be discussed. The behavioral expressions of emotional warmth will be the topic of the section that follows.

Parental behavior has sometimes been viewed as being expressed in complex patterns that can best be understood as a structured whole (Baumrind, 1971). This view of complex patterns was related to the non-linear relation that was found between aspects of parenting and

children's development of competence (Baumrind, 1971; Roberts, 1986). Starting from ratings of parents' behaviors towards their children observed during home visits, Baumrind (1971) compiled behavioral clusters and combined them with self-reported attitude clusters. Through this procedure eight parenting patterns were created (e.g. "authoritative-nonconforming" or "permissive" ones) which were then related to child behaviors. In this approach warmth was seen mainly as openness and accessibility of the parent for the child.

Another attempt was to identify separate aspects or dimensions of parenting behaviors. An early example of this approach is Baldwin's (1949, 1955). He discussed three aspects of parenting, namely warmth/coldness, emotional involvement/detachment, and philosophy of child-rearing (i.e. democratic, principled autocratic, or permissive). The relationship between these aspects was depicted in a figure showing the philosophy of childrearing as a non-linear continuum (Baldwin, 1955). As illustration for the different combinations of aspects, he provided detailed case descriptions and profiles based on behavior ratings of particular families. Baldwin supplied an operational (Baldwin, 1955) but not a conceptual definition of warmth (Baldwin, 1949).

Clarke-Stewart (1973), as Baumrind (1971), relied on both observations of mothers' behaviors towards their toddlers and self-reports. However, Clarke-Stewart factor-analyzed these data and identified six factors. The factor "optimal care" included the expression of positive emotionality whereas rejection loaded negatively on this factor. Optimal care is the factor most closely related to emotional warmth, though different aspects of emotional tuning and maternal attitude appear in three more of Clarke-Stewart's factors.

Schaefer and Becker based their studies on earlier studies on parenting. Schaefer's (1959) approach was to analyze the inter-correlations of variables from several existing studies and found that these could be described with the help of two orthogonal variables which he labeled as warmth/hostility and control/autonomy. Several years later Becker (1971) tried to disentangle aspects of "parental discipline". He proposed a three dimensional model

which was supported by factor-analytic procedures which he applied to earlier studies. The three factors were restrictiveness versus permissiveness, anxious emotional involvement versus calm detachment; and warmth versus hostility. According to Becker the first two dimensions were subdivisions of Schaefer's control/autonomy dimension. He also arranged the existing parenting patterns in his model. Some of the concepts that loaded on the empirical dimension warmth versus hostility were acceptance, approving, child-centeredness and praise.

Rohner (1975, 1986, 1994, 2003) started focusing exclusively on the "warmth dimension" (1986) of parental behavior that had been identified by the authors before him. According to him the concepts of warmth and acceptance are interchangeable and constitute the opposite of rejection ("parental acceptance rejection theory (PART)"). Rohner (1975) stated: "Parental acceptance is marked by overt displays of warmth and affection on the part of the parents toward their children. Acceptance is revealed by parents doing things to please their children". Responsiveness has also been used as a synonym for warmth and acceptance (Baumrind, 1989) or it has been understood as an aspect of warmth (Roberts, 1986). However, responsiveness has sometimes been used to encompass other aspects besides emotional warmth. Mize & Pettit (1997) for instance, differentiate synchrony and warmth in their operationalization of a responsive interactional style.

Attachment has also been discussed in the context of emotional warmth (e.g. Rohner, 1975; Roberts, 1986) or treated as being closely linked or synonymous with love (Harlow, 1958; Ainsworth, 1967; Bowlby, 1953; Waters et al., 1991). Attachment theory is probably the most prominent theory in psychology on infants' socio-emotional development and therefore a conceptual disentanglement of emotional warmth will be attempted. Ainsworth (1967) suggested that it is sensible to assume that the experience of emotional warmth leads to attachment: "On a priori grounds it might be assumed that warmth and affection expressed by the mother in interaction with her baby would have much to do with how secure and attached he became." (p. 394). Although Ainsworth's concept of sensitivity (Ainsworth,

1969), which is considered to be a condition for the development of attachment, includes aspects (e.g. “an appropriate response”) that may be related to warmth (Lohaus, Keller, Ball, Voelker, Elben, 2004). The connection between warmth and attachment could not always be found (e.g. Ainsworth, 1967). Moreover, the idea that warmth might be a necessary but not a sufficient condition for the development of attachment, was not always supported empirically (e.g. Rajecki, Lamb, & Obsmacher, 1978). In fact, there are also profound conceptual reasons to see warmth as a distinct construct, as MacDonald (1992) pointed out. Sensitivity and warmth address distinctly different emotional and biological systems (MacDonald, 1992) which have different effects, for instance on personality functioning (Kuhl, 2001). While the “human affectional system” (i.e. warmth) facilitates “cohesive, psychologically rewarding family relationships”, the “attachment system” (i.e. sensitivity)’s function is “to provide security in the face of threat” (Mac Donald, 1992, p. 753).

Emotional Warmth and its Behavioral Expressions

There are several modes of behavioral expressions of warmth, positive emotionality, emotional responsiveness and acceptance on the part of the caregivers. According to Rohner (1975, 1986) warmth-related behaviors can be either physical or verbal. The physical expression of warmth includes “affectionate tactual contact” (Clarke Stewart, 1973) or “positive touches” (Carton & Carton, 1998) such as hugging, kissing, caressing, cuddling or holding the child (Clarke Stewart, 1973; Rohner, 1975). Smiling is another widely recognized way of expressing emotional warmth (Mize & Pettit, 1997; Clarke Stewart, 1973; Carton & Carton, 1998). Among the verbal or vocal ways of expressing warmth are praise (Minturn & Lambert; 1964; Clarke Stewart, 1973; Rohner, 1975; Kochanska, 1997; Becker, 1971), positive statements (Mize & Pettit, 1997), “social speech” (e.g. onomatopoetic exclamations,

responsive questions; Clarke Stewart, 1973), and singing (Clarke Stewart, 1973; Rohner, 1975).

Some authors have also used more abstract concepts to describe the expressions of emotional warmth. Among the terms used for capturing the abstractions are “affectionateness” and “child-centeredness” (Baldwin, 1955), “demonstrations of affection” (Mize & Pettit, 1997), “responding positively” (Parpal & Maccoby, 1985; Lay, Waters, & Park, 1989), or “shared positive affect” (Kochanska, 1997, 2001).

According to the existing research, emotional warmth can thus be defined as a feeling or emotion related to love, affection, and psychological closeness that caregivers can have towards the child. Emotional warmth addresses the positive affectional system and can be expressed towards an infant in many different ways. These can be conceptualized as belonging to three different modalities: the bodily, facial, and vocal/verbal (Keller, 2002; Yovsi, 2003).

The bodily expression of warmth consists of behaviors such as body contact, caressing, kissing, and co-sleeping. Touch and body contact are considered to be fundamental and early ways of communicating with an infant (Stack, 2001; Hertenstein, 2002; Field, 2003), particularly as a means of communicating positive emotions (Stack, 2001; Tracy & Ainsworth, 1981; Rohner, 1986). Co-sleeping¹ is a practice that provides an infant with body contact over extensive periods of time during the night.

The most obvious facial expression of warmth is smiling. As Ekman and Friesen (1982, p. 238) put it: “Smiling is one of the simplest, most easily recognized (...) facial expressions.” Smiling develops early in infancy, as Duchenne smile that occurs mainly while the infant is sleeping (e. g. Messinger et al., 2002). The facial expressions of affect (e.g. smiling) can be coded on the basis of anatomic criteria (Ekman & Friesen, 1978), but humans

¹ Sleeping in the same bed as the mother or other family members is considered as co-sleeping here.

also have everyday concepts and an understanding for the meaning of these facial expressions for instance of smiling as “a sign of happiness” (Bullock & Russell, 1986, p. 234).

Affective sharing describes the state of the interactional partners being emotionally attuned to each other - that is, having the same affect (Kochanska, 1997). This condition can be described as “being in tune with each other” or “being on the same wavelength”. Affective sharing is usually (though not exclusively) observable in facial exchanges, for example if the child smiles and the caregiver, seeing that, smiles along.

Vocal and verbal warmth actually consists of two different dimensions. One is that of the tone of voice and the other is the content of the words. Baby talk refers to the aspect of the caregiver’s tone of voice, whereas praising a child is warmth on the content dimension. Praise is often perceived as a reward for a child from a (social) learning theoretical point of view (Poulson, Kyparissos, Andreatos, Kymissis, & Parnes, 2002; Schmitt, 2001; Diamond, Churchland, Cruess, & Kirkham, 1999) and baby talk is sometimes discussed as a linguistic style that may help children in language acquisition (e.g. Crittenden, 1994; Ringler, 1981; DePaulo & Bonvillian, 1978). However, both praise (Rohner, 1986) and baby talk (Zeidner, 1983; DePaulo & Coleman, 1981) are also regarded as expressions of warmth.

Evolutionary Roots of Emotional Warmth

The need for experiencing emotional warmth is seen as inborn (Rohner, 1975) and behaviors that seem related to the expression of emotional warmth can be traced in other (primate) species, so that an evolutionary history can be assumed. From a pan-species perspective grooming, which has been observed among many species (see Figure 1), can be considered as the earliest form of the expression of emotional warmth (Keller, 2002). Grooming has obvious physical, hygienic functions (e.g. Barton, 1985; Sparks, 1967) that ensure the individual’s health. Additionally, it seems to have pronounced social functions

among many primate groups (e.g. Goosen, 1980; Nakamichi, 2003; Cooper & Bernstein, 2000; Dunbar, 1996). It establishes group coherence by fostering reciprocity, trust, and cooperation between the members of the group. Grooming also has a soothing effect on the individual who is being groomed and can reduce tensions (Boccia, 1989; Schiefenhövel, 1997). These social effects of grooming in primates are presumably closely related to the effects of the expression of emotional warmth in humans that will be described in the next chapter.



Figure 1: Grooming Monkeys

Even though grooming is also practiced in human groups, particularly towards children by their parents and in traditional societies (Schiefenhövel, 1997) it is not as frequent as would be expected from the observation of other primates (Dunbar, 1996). Dunbar (1996) proposed that increasing group size in humans in the course of evolution made actual physical grooming too time-consuming and therefore had to be reduced drastically or else survival would have been jeopardized. He suggests that language could be a way of distal grooming in humans (Dunbar, 1996, 2004). This would mean that verbal interactions could be a species-

specific, human way of expressing warmth besides the bodily expression which is also found in other species. The assumption that bodily and verbal expressions of closeness in humans may be functionally related is supported by results that suggest that early physical closeness between caregiver and child is replaced by more conversational closeness in the second year of a child's life (Clarke-Stewart & Hevey, 1981). It can be concluded that the expression of warmth in humans is related to grooming in other primates but warmth in humans can be expressed through a wider range of modalities (Keller, 2002).

The experience of emotional warmth probably has a survival value for humans (Rohner, 1986; MacDonald, 1992; Keller, 2002). On the one hand the experience of emotional warmth has a positive influence on personality development (Rohner, 1975, 1986) and it is generally accepted that a certain amount of warmth is necessary for the avoidance of pathology in children (Rohner, 1986; Maccoby & Martin, 1983). On the other hand emotional warmth strengthens or may even partially underlie the human tendency to have strong pair bonds which are necessary for the intensive care of the highly dependent human infant (MacDonald, 1992).

Summary: Emotional Warmth as a Parenting Behavior

The premature birth of the human infant necessitates intensive caregiving efforts by the social surroundings of the child. The child who is exposed to this caregiving has numerous learning opportunities. The caregiver's interaction with the infant has been an area of study for many decades. Emotional warmth, and its behavioral expressions, has emerged as one of the recurring topics in these research traditions. The expression of emotional warmth can be seen as an adaptive effort that has evolved from grooming in other species and can occur through bodily, facial and verbal modalities in humans.

Agency, Interpersonal Distance, and Emotional Warmth

As described in the last section, emotional warmth and its expression is both universal to some extent and shows inter-individual differences. However, it can be assumed that there are also systematic cultural² differences in the prevalence of warmth between groups. A two dimensional model about these differences will be introduced in the first section of this chapter. Later on the relation of these differences and the expression of emotional warmth will be expounded.

Kagitcibasi (e.g. 2002, 2005) proposes interpersonal distance and agency as two dimensions on which cultural groups can differ. The differences concern the family model that is predominant in a particular cultural group as well as the self-concept that an individual develops growing up in these families. The family models of interdependence and autonomous-relatedness both stress relatedness on the interpersonal distance dimension. In the family model of interdependence, the family is economically dependent on the contribution of every family member. It is therefore an important goal to have loyal children. Childrearing is oriented towards obedience and little room is provided for autonomy. The self that children develop in these families is characterized by relatedness and interdependency. This family model is found, among others, in traditional, rural, agrarian societies (e.g. Keller, Lamm, et al., 2006). The autonomous-related family model on the other hand is characterized by a high degree of emotional interdependence on the one hand, but economic independence of family members on the other hand. Though children in these families are also reared for loyalty towards the family, they are also given room for autonomy (Kagitcibasi, 2002). Children in these families perceive themselves as both agentic and closely related to their families. This model is prevalent in urban middle-class families in formerly traditional

² Culture is not equated with residency in or citizenship of a country or ethnicity here. Rather culture is seen as related to structural, socio-economic factors that differ for different groups of people and are related for instance to their socialization goals, child-rearing behaviors and concepts of persons (Bronfenbrenner, 1979; Whiting and Whiting, 1975; Berry, Poortinga, Segall, & Dasen, 1992).

societies. These families are characterized by high educational levels and an income that grants them access to modern media and amenities. Within the family model of independence which is prevalent in so-called Western industrialized middle-class families, children are socialized towards autonomy with relatively low levels of relatedness. The self-concepts that children develop in these families are agentic and the own self is perceived as clearly separate from that of other family members.

According to Keller (2002), body contact, body warmth, other expressions of emotional warmth and shared attention, foster qualities in infants that are necessary in cultural communities in which families stress relatedness. This has been found in empirical studies, particularly in those cultural groups in which the interdependent family model prevails (Keller, Abels, et al., 2005; Keller, Lohaus, et al., 2004). Face-to-face contact, object stimulation, contingencies and exclusive attention foster autonomy and a sense of agency in the infants and are therefore preferred modes of interaction in families that value independence (e.g. Keller, Abels et. al, 2005; Keller, Lohaus, et al., 2004). Language has also been shown to be used more by independent caregivers. However, the content of language reflects the caregiver's self-concept and family model and probably has an effect on the infant's development (Keller, Abels, et al. 2006; Demuth et al., 2005). The case of the autonomous-related families is complicated. These families face the challenge of combining behaviors that foster autonomy and those that foster relatedness.

Relatedness and Developmental Correlates of Experiencing Emotional Warmth

Empirical results from different approaches to the topic of warmth support the proposition that there are specific correlates of the experience of emotional warmth with the development of an infant. The expression of emotional warmth by the caregiver fosters close relationships of the infant with the caregiver (Maccoby & Martin, 1983; DeWolff & Van

IJzendoorn, 1997; Mize & Pettit, 1997) and with peers (Mize & Pettit, 1997). Studies have also shown that rejection is related negatively to the effectiveness of maternal interventions in terms of physical contact, objects or instrumental speech towards infants (Clarke Stewart, 1973) and that the experience of emotional warmth is related to compliance in childhood (Stayton, Hogan, & Ainsworth, 1971; Parpal & Maccoby, 1985; Lay, Waters, & Park, 1989; Kochanska, 1997, 2002; Chen, Rubin, & Liu, 2003). It has also been described that in societies in which children experience large amounts of emotional warmth, elderly persons are more respected and their advice is more sought after (Birmingham, 1982 as cited in Rohner, 1986). Relating this to Kagitcibasi's (2002, 2005) two dimensional model, the expression of emotional warmth seems to be important for the promotion of relatedness. Differences in the expression of emotional warmth can therefore be assumed between cultural communities in which interdependent and autonomous-related self-concepts predominate and those in which independent self-concepts prevail.

The effects that the experience of emotional warmth has on children's development are evaluated as being more important by some cultural communities than by others. The expression of warmth shown towards babies can therefore be regarded as a means of socialization of varying prevalence (Keller & Eckensberger, 1998; Keller, 2002; Yovsi, 2003). The expression of emotional warmth can be expected to be more prevalent particularly in those societies in which group coherence, compliance and respect are clearly pronounced as socialization goals. It has been noted that these socialization goals are especially desirable in cultural groups that stress relatedness as the primary mode of the self (Kagitcibasi, 2005; Hayward, 2004; Keller, Lamm, et al., 2006).

According to this model (Kagitcibasi, 2002) emotional warmth as a means of socialization would be expected to be prioritized more by families that foster relatedness in their children. Therefore families with the aim of raising autonomous-related as well as

interdependent children are assumed to stress emotional warmth more than families that follow an independent child rearing model.

Studies have demonstrated large cross-cultural differences in caregivers' behaviors that are related to the expression of emotional warmth. These pertain particularly to the bodily expression of emotional warmth. Large differences between cultural communities have been demonstrated in the duration of body contact, babies experience during the first year of life (e.g. Keller, Abels, et al., 2005; Hewlett & Lamb, 2002; Hewlett, Lamb, Shannon, Leyendecker, & Schölmerich, 1998; Goldberg, 1972) and the prevalence of co-sleeping of the baby with other family members, predominantly the mother (e.g. Rothbaum, Morelli, Pott, & Liu-Constant, 2000; Morelli, Rogoff, Oppenheim, & Goldsmith, 1992). These studies generally confirm the assumption that caregivers living in communities (assumed or having been shown to emphasize relatedness express more body warmth. Kakar (1981) for instance claims that "the Indian infant's experience of his mother is a heady one, his contact with her is of an intensity and duration that differentiate it markedly from the experience of a Western child." (p. 80). This statement is supported (Sharma & LeVine, 1998) by results that showed more body contact experiences of Indian than of European and North American infants, if all caregivers are considered. Other authors, however (Keller, Abels, et al., 2005), have conflicting results. Contrary to the expectation in their study, German infants experienced more body contact than rural Indian (Gujarati) infants. Factors that may be related to these divergences may lie in the specific living conditions of the samples that Keller, Abels, et al. studied. They will be discussed later.

There have also been self-report studies on the expression of emotional warmth. Minturn and Lambert (1964) factor-analyzed scales composed from interview data with the mothers or mother surrogates of their target children aged three to ten, from six different cultural communities. In their factor analysis they extracted ten factors of which seven could be interpreted. One of these seven was "warmth of the mother" which consisted of high

general warmth, frequent use of praise, low general hostility, and infrequent use of physical punishment. How warm (surrogate) mothers were reported to be, differed considerably between the six cultures, with the Indian sample ranking lowest, particularly in terms of “warmth” and “praise”. The latter result is unexpected as Indian caregivers are ? assumed to score high on warmth. This may be due to beliefs about praise that prevail in India and will be discussed later.

The result is also not confirmed by Rohner (1986) who found that in general children felt accepted in almost every cultural community he studied. “[I]n all samples except Monterrey, Mexico, children perceived themselves overall to be accepted by their parents” (Rohner 1986, p.92). Mostly, this held true for adults’ retrospective accounts of the warmth they had experienced in their own childhood as well (Rohner, 1986). However, there were also differences across the sample means which had a range of 98-126. Within India the perception of the emotional warmth expressed by parents in three different communities diverged (103, 110, 126; Rohner, 1986; Rohner & Chaki-Sircar, 1988). The two Indian samples from Madhya Pradesh (103) and West Bengal (110), both located in the north of India were close to the overall (excluding the Mexican sample) mean of 107. The children of the sample from Andhra Pradesh, located further in the south of India, felt more rejected than the average (126). The authors did not have any explanation for these differences (Rohner & Chaki-Sircar, 1988). Besides regional differences in parents’ ways of interacting with children, the reasons may lie in linguistic differences or factors related to the place of residence or socio-economic status that were not described in great detail by the authors. Rohner (1986) cautioned that by looking at sample means only, large inter-individual differences within the samples are masked.

Autonomy and the Expressions of Emotional Warmth

In addition to the assumption that the emphasis put on the expression of emotional warmth varies with the families' orientation towards relatedness, the way emotional warmth is expressed may also differ between cultural groups with different orientation on the agency dimension. The next section deals with socio-economic factors that are usually associated with the agency dimension and how they are related to socialization. A suggestion how this could be related to the expression of emotional warmth in different groups will be presented.

Studies have demonstrated that socio-economic factors (usually operationalized as education, occupation, income) influence many facets of families lives as assumed by Kagitcibasi's (2002) model. Changes in the income generating activities of a community and education have been shown to be related to teaching and learning strategies employed (Greenfield, 1999; Greenfield, Maynard, & Childs, 2000; Rogoff, Paradise, Mejía Arauz, Correa-Chávez, & Angelillo, 2003; Mejía-Arauz, Rogoff, & Paradise, 2005). Caregivers who have received more formal education transfer the roles learned in school to their family environment (Rogoff et al., 2003). They often quiz the learner and provide the child with task-unrelated commentaries of actions. This way of teaching is highly dependent on language (Rogoff et al., 2003; Mejía-Arauz, Rogoff, & Paradise, 2005). Caregivers with less formal education facilitate "intent participation". The child learns by observing more knowledgeable persons perform tasks and is provided with task-related information. This type of learning relies on the learners' observational skills and to a lesser extent on verbal instructions (Rogoff et al., 2003). This is in line with studies on caregivers speaking with their children. Caregivers belonging to a lower socio-economic status (SES) talk to their children less than caregivers of a higher SES (Hoff-Ginsberg, 1991; Hoff, 2003; Chaudhary, 1996). Less educated mothers have been found to interact less through face-to-face contact (Richman et al., 1992) and more "traditional" families play with their children less frequently than more "modern" families (Seymour, 1999). The learner in subsistence economies also learns in close contact with the

teacher in a situation that is highly scaffolded and leaves little room for mistakes or trial-and-error learning that facilitates innovation (Greenfield, 1999; Greenfield, Maynard, & Childs, 2000).

Assuming that caregivers show emotional warmth particularly in those communities that foster relatedness, the question would be what effects a differential orientation on agency has on the way that emotional warmth is expressed. As pointed out earlier, caregivers who have an autonomous-related orientation face the challenge to foster both agency and relatedness. These caregivers would be expected to show both behaviors that foster relatedness and behaviors that foster agency frequently. One possibility is to interact in both different styles to a large extent, another, maybe more economic way, is to adapt the mode of expression to suit both socialization goals. There may be restrictions particularly in time (e.g. many behaviors cannot be done with a sleeping infant, the caregivers have other tasks) that may lead caregivers to combine parenting systems and interactional mechanisms in such a way that they help the infant in attaining both relatedness- and autonomy- oriented socialization goals. It may well be possible to express emotional warmth either within the more proximal parenting system of body contact which would be expected of caregivers following an interdependent socialization model or in a more distal way, by smiling during face-to-face interactions and by using baby talk. The latter behaviors presumably foster relatedness. At the same time they foster agency because of the distal mode of expression (Keller, Borke, et al., 2006). Moreover smiling can also occur contingently and the content of the baby talk may concern the infants' autonomy. Therefore, even though both interdependent and autonomous-related families are assumed to have the same goals when relatedness is concerned, differences may exist in their mode of expression. It is plausible to assume that autonomous-related mothers find the expression of warmth in distal ways (verbal/vocal warmth and facial warmth) more appropriate than their interdependent counterparts.

Summary: Family Models and Emotional Warmth

The experience of emotional warmth has specific developmental consequences for an infant. Namely, the child develops positive interpersonal interactions, obedience and respect. Furthermore warmth strengthens group coherence. Therefore the expression of warmth by the caregivers can be expected to differ in relation to the prevalence these outcomes have as socialization goals in a particular (cultural) group. Specifically, the expression of emotional warmth can be assumed to be more important in cultural groups that emphasize relatedness.

The caregiver's orientation on the agency dimension is expected to alter the way the emotional warmth is expressed towards an infant. Specifically caregivers who are oriented more towards fostering autonomy in the child can be expected to express emotional warmth in more distal ways, namely through verbal/vocal and facial interactional behaviors.

Caregivers' Ethnotheories

This section is concerned with parents' thoughts as an approach to studying child-rearing in cultural context. Whiting and Whiting (1975) understood the caregivers' beliefs and values as shaped by their "maintenance systems". That is, the ecological, climatic and geographic surroundings influence how cultural communities organize their livelihood and division of labor (cf. also Weisner, 2002). Parents are part of these maintenance systems and organize their own and their children's life accordingly. More recently Super and Harkness (1986, 2002) have discussed parental belief systems as part of the child's "developmental niche". According to the concept of the developmental niche, parental beliefs are part of a larger environment the child encounters.

Caregivers' ethnotheories, the concept used in this thesis, are culturally shared beliefs about children and their development on which caregivers base their childrearing choices. "Parental" (cf. Harkness & Super, 1996) is explicitly avoided because it narrows the focus to the parents while excluding other potential caregivers, for instance grandmothers. There are many alternative terms that are used for parents' thoughts on children and childrearing (Goodnow & Collins, 1985; Harkness & Super, 1996; Sigel, McGillicuddy-DeLisi, & Goodnow, 1992a & b; Sigel, 1985). The terms refer to concepts that overlap to some extent and which one is used depends on the aspect an author wants to stress. "Ethnotheories" is considered to be connected with the anthropological research tradition and the focus is particularly on culture-specific aspects (Harkness & Super, 1996). „The term ‚parental ethnotheory‘ (...) acknowledges the intellectual roots of this construct in anthropological studies of indigenous belief systems or folk theories“ (Harkness & Super, 1996, p.7).

Ethnotheories can be understood as beliefs for which evidence may or may not be considered necessary (Sigel, 1985). Beliefs that are not based on evidence can be based on faith or convictions. Probably many traditional beliefs belong to this category. Beliefs can

concern different domains of life and have social, physical or logico-mathematical contents (Sigel, 1985). They may not be conscious (Sigel, 1985; Harkness & Super, 1996).

Caregivers' ethnotheories are expected to be shared to some extent by members of a cultural community. Different members of the same community can be expected to differ in their ethnotheories if other aspects of their present or past social environment differ. Persons belonging to different generations can be seen as an example of different perspectives within one community. In changing societies the environments that members of different generations have experienced during their lives differ. Modernization and individualization tendencies can be observed in many places all over the world (e.g. Beck, 1986; Kagitcibasi, 2005; Nichols, Sugur, & Tasiran, 2003), due to the accessibility of education, transportation, and information for instance via the media.

Ullrich (1987) described how education and age at marriage are related to changes in the independence of women in a south Indian village over the last 20 years. These changes could be seen in younger women's greater mobility and greater influence on marriage choices. The older generations of women did not leave the village on their own, whereas the younger generation of women attended college or had jobs outside the village and commuted on their own. Additionally, younger women participated in selecting their husbands or could even choose not to get married; the older women's marriage had been arranged by their families. They were married, practically to a stranger, at a very young age at which they were insecure and did not dare to assert themselves because their husbands were often much older and favored by the patrilocal living arrangements. Ullrich reported that some of the older women adapted to some extent to their younger daughters-in-law's views, many, however, also held on to their own, more traditional views and some tried to enforce them on their daughters-in-law. The tendency towards more education of younger women can be perceived in the Indian population in general, too. (Census of India, C series, 2001). 64% of the 45-54 year old women are illiterate, but this is true for only 41% of the women between 20-29 years

of age. In the younger age group 37% of the women have received secondary education, whereas only 16% of the women between 45-54 years of age have attained the same educational level.

As proposed earlier, caregivers' ethnotheories are the base of childrearing choices made by the caregiver. From this perspective ethnotheories are seen as "powerful sources of affect and motivators of behavior" (Harkness & Super, 1996, p. 9). Sigel states that researchers seem to agree "that beliefs form an important psychological guide to action" (Sigel, 1985c, p. 346). Weisner, Matheson, and Bernheimer (1996) claim that one of the reasons why cultural beliefs are so powerful lies in their implicitness. However, there is no one-to-one correspondence between behaviors and beliefs and empirically the connection is often weak (e.g. Keller, Abels, et al., 2006). Sigel (1992) showed that the relation between parental beliefs, reported teaching strategy, and observed teaching strategy becomes stronger if the teaching domain is taken into account. However, the links between behaviors and beliefs stayed fairly weak. It seems worthwhile to study ethnotheories despite or maybe even because of these difficulties in finding connections between behaviors and beliefs. In fact, ethnotheories can help to understand behavior. Harkness and Super (1996) suggest: "understanding the meaning of practices to their participants can take us a long way in improving our more general links between beliefs and behavior" (p. 6). Concerning the topic of this study, Rohner (1986, p. 26) remarks: "The problem, (...) is to discover what behaviors are understood by individuals in various socio-cultural systems as being expressions of acceptance or rejection."

Besides strengthening the connection between studied behaviors and beliefs, studying ethnotheories can help us thus to overcome ethnocentric biases and to create more ecologically valid studies. By considering the participants' point of view, it becomes possible to access the local meaning of concepts. In the case of emotional warmth, for example, such an exploration would help to confirm whether participants carry the same understanding of

the concept as the researcher and whether they produce a similar list of behaviors as expressions of emotional warmth. Giving participants an opportunity to express their beliefs in their own voice has also been a demand of qualitative researchers for some time (e.g. Opie, 1992). Taking participants' beliefs seriously, can open the possibility to arrive at a culturally informed/fair or "derived etic" (Berry, 1989) theory.

Cultural Orientation and Child Rearing in India

In India both the family model of interdependence and autonomous-relatedness can be found (Keller, Lamm, et al., 2006; Abels et al., 2005). Indians have been found to be family-oriented (Verma & Triandis, 1999) and compared with European or North American participants' self-construals, Indians' self-construals were more interdependent (Kapoor, Hughes, Baldwin, & Blue, 2003), Indians mentioned more other persons when describing themselves (Lalljee & Angelova, 1995) and related more to their social identity (Dhawan, Roseman, Naidu, Thapa, & Rettek, 1995). Studies comparing different groups of persons within India are rare. Factors such as education, occupation and income are seldom compared systematically (exceptions are studies such as those by Kuebli, Reddy, & Gibbons, 1998; Sinha, Sinha, Verma, & Sinha, 2001). However the demographic data that are available on India shed some light on the family models, self-concepts and socialization goals that can be expected.

Approximately 72% of the Indian population lives in rural areas (Census of India, rural-urban distribution of population) mainly in agrarian contexts, in relative poverty, with little access to education. Approximately 28% of the population lives in urban centers, famous for their highly educated professionals, for example computer specialists, living in good socio-economic situations. Therefore depending on their education, occupation, and financial situation, both, families oriented towards autonomous-relatedness and interdependence can be found in India. At the same time, at least theoretically, families experience similar societal macro-factors (political system, religion etc.) influencing families' socialization goals and parenting behaviors (Bronfenbrenner, 1979; Whiting and Whiting, 1975; Berry, Poortinga, Segall, & Dasen, 1992).

Socialization in India

In the following sections socialization practices and ethnotheories in India are discussed, particularly those that are related to warmth. Because only a small number of studies on socialization in India address within-Indian differences, an attempt will be made to describe what seem to be common socialization practices in India regarding both the family members' roles in caregiving and the expression of emotional warmth. Then an attempt will be made to distinguish between caregivers that are more or less oriented towards autonomy. On the one hand members of different family types will be considered. On the other hand the studies that make inner-Indian comparisons that can be interpreted as differences in emphasis on autonomy will be discussed. These studies and the classification in interdependent and autonomous-related families will be introduced briefly.

Abels et al. (2005) addressed differences in the daily experiences of rural and urban infants in Gujarat. The study is based on the Component Model of Parenting (Keller, 2002) and its assumptions in relation to the interdependent and autonomous-related family model. The rural families represent the interdependent family model, the urban sample the autonomous-related model. Seymour (1999) applied a diversified sampling strategy, varying both the status (caste or occupation) of the family and their traditionalism which was operationalized by the part of the city of Bhubaneswar ("old town" vs. "new capital") that the families lived in. Even though all the families observed in Seymour's study lived in an urban environment, her findings may be related to the theoretical distinction between interdependent and autonomous-related families. At the time the data was collected (1965-1967) traditional urban families were probably less oriented towards autonomy as a child rearing ideal than present day urban middle-class caregivers and can therefore be assumed to have had an interdependent child-rearing orientation. This seems to be supported by the rather low emphasis on education, especially of girls that Seymour (1994) reports. The new capital families on the other hand were probably autonomous-related at the time, showing mobility to

the new capital and being part of a system in which increases in status were possible through individual achievement. Furthermore, Seymour describes husbands and wives to be more egalitarian and companionship to play a larger role in the new capital partnerships. This also hints at these families being less hierarchical and role dominated – characteristics that rather typical of interdependent families (Rothbaum, Pott, et al., 2000).

Family Members' Roles in Caregiving

Generally, the mother is the major caregiver for infants in India (Sharma & LeVine, 1998; Seymour, 1999; Kakar, 1981; Abels et al., 2005). The mother is also perceived as being ideal for this role (Kakar, 1981). However, there are authors who suggest that an exclusive relationship between the mother and the child is not considered appropriate. Dyadic bonds, for example between husband and wife, are regarded as weakening the family (particularly the joint³, patriarchal family) and therefore discouraged (Kakar, 1981). This seems to be true to some extent for the mother-child dyad as well (Seymour, 1993), whereas it is one of the aims of socialization in India, as in many other places in the world, to integrate the child into the family. Children venture or are being pushed “away from their mother’s orbit and into the sphere of extended-family members” (Sharma & LeVine, 1998, p. 55) already during the first years of their lives (cf. Seymour, 1999), and even more so with increasing age and the attainment of motor and cognitive milestones, as the authors suspect (Sharma & LeVine, 1998). The family is believed to be the ideal place for a child to grow (Chaudhary & Kapoor, 2004) and there is a clear focus on the child being a member of a (family) group (Seymour, 1999). The child is encouraged to address family members and outsiders appropriately regarding their hierarchical position and type of relationship to the child (Chaudhary, 2004).

³ In this study nuclear family is defined as a family consisting of parents and children, the term “joint family” is used as a general label for any family with more related members than a nuclear family (cf. Shah, 1998a). Extended is occasionally used in cases in which other authors have used it or to refer to family members belonging to a larger kinship group without specifying their living arrangements.

Kakar (1981) describes that when the mother is away from the infant for a time, a sister, aunt or grandmother cares for the child. The amount of care infants received from all the others has been described as being approximately as much as they receive from their mothers (Seymour, 1999; Sharma & LeVine, 1998). According to a study by Sharma and LeVine (1998) the mother provided 40-50 % of the care- giving activities in the time between the child's birth and the 18th month of its life. Between the 18th and 36th month of the child's life the mother's care decreased to less than 30%. Other persons provided the child with approximately 40% of the caregiving activities between 0-7 months and 11-18 months but this figure rose to 60% between 7 and 11 months and continually after the child was 18 months old. (Sharma & LeVine, 1998).

The family structure (i.e. nuclear or joint, cf. footnote 3) and family size (i.e. number of family members) are obviously related to caregiving as they reflect the presence or absence of family members in the household. Grandmothers and aunts are found to be of particular importance in medium (6-8 members) and large (>8 members) households, whereas in small (<6 members) households others, like fathers and uncles play a greater role (Sharma & LeVine, 1998). In Sharma & LeVine's (1998) study household size is equated with the family structure (which they categorize as nuclear, extended or joint). However, although family size and family structure are usually related (Shah, 1998a), they cannot be equated. The same family size can be reached by a joint family with few or a nuclear family with many children. In both cases the adult/child ratio and situation the child experiences differs markedly. Therefore the results of Sharma & LeVine's study (1998) leave some room for speculation.

The family members' roles seem to differ depending on the extent of emphasis put on socialization towards autonomy. The observations of interdependent (i.e. old town) versus autonomous-related (i.e. new capital) families (Seymour, 1999) showed that in interdependent families besides the infants' mothers, their older sisters and grandmothers did most "nurturant acts", whereas in autonomous-related families grandmothers and fathers did most nurturant

acts beside the mother (Seymour, 1998). There are not only differences in who cares for a baby, but the content of the caregiving roles of mothers and others also seem to differ according to the family model (Abels et al., 2005; Seymour, 1983). The interdependent (rural) mother is described as the nurturing caregiver who provides the child with food and fulfills the baby's basic needs. The other caregivers are more playful, playing with objects and stimulating the child's body. The rural mother seems to lack the time for or to avoid public display of a too dyadic and autonomy-fostering style of parenting. Autonomous-related (urban) mothers on the other hand engage in eye-contact and object play more than the rural mothers, although they also fulfill the role of the nurturing mother.

As can be seen from these descriptions, the grandmother is mentioned frequently as an important caregiver for the child (Sharma & LeVine, 1998; Seymour, 1999; Kakar, 1981). Grandmothers are described as indulgent and children may have closer relationships with them than with their mothers (Rohner & Chaki-Sircar, 1988). The role of other caregivers does not become very clear from the existing literature. Kurtz (1992) has suggested that the child may experience his or her caregivers as "one". Roopnarine and Suppal (2000) have drawn attention to the underestimated importance of fathers as caregivers in Indian families. Fathers seem to be more involved in nuclear than in joint families (Sharma & LeVine, 1998) and Suppal, Roopnarine, Buesig, & Bennet (1996)'s data suggest that in both nuclear and joint dual-earner families, husbands and wives have more egalitarian views on child-care which may facilitate the fathers' involvement.

Emotional Warmth in India

The descriptions of warmth, love, positive emotionality and indulgence towards infants in India are somewhat divergent. Kakar describes Indian children as experiencing absolute indulgence in the early years of their life (Kakar, 1981). By loving the child and

giving what the child asks for, the mother ensures that she will be cared for by the child in her old age (Trawick, 1990). This love however should be kept hidden and kept within limits (Trawick, 1990). The display of affection makes the child prone to become a victim of the “evil eye” (Trawick, 1990; Seymour, 1983; Spiro, 2005). Too much love is considered dangerous for the child and a child indulged in too much by his or her family is not well-prepared for the cruelty of later life (Trawick, 1990; Chaudhary, 2004). Trawick states that this belief is related to the concept of *karma* and that because the world is not a gentle or good place, one has to pay for all good times later (Trawick, 1990). It has been observed that at least in more traditional families a child cannot expect to receive any overt affection or total indulgence (Seymour, 1999), especially not by his or her mother (Abels et al., 2005). Mothers-in-law may also object to too much indulgence on the mother’s part (Seymour, 1998). Instead, children are systematically frustrated and teased to the point of tears by their caregivers (Seymour, 1999; Trawick, 1990; Chaudhary, 2004) which is sometimes understood as a special display of positive emotions.

Several authors have suggested that there is a relation between the structure or size of a household and the emotional warmth an infant experiences in a household. It has been suggested that there is a positive relation between household size and infant indulgence (Munroe & Munroe, 1971, 1980; Whiting, 1961). This may, however, result from the number of caregivers available in a large household. Rohner (1975) suggests that the structure of the family may have effects on the family members’ interaction with the infant. Rohner & Chaki-Sircar (1988) report that children perceive their mothers as less accepting when they live in an extended household than when they live in a nuclear family. The authors attribute this to the higher levels of stress that mothers experience in extended households. However, the experienced rejection can also be buffered by the presence of other emotionally warm caregivers in the family (Rohner & Chaki-Sircar, 1988). Therefore the overall experience of

emotional warmth by the child may still be higher in joint families, even though this might not be expressed by the mother.

The Proximal Expression of Emotional Warmth (Body Warmth) towards Infants in India

The component of body warmth, expressed through body contact and cuddling, is reported to play a major role in infants' experiences in India (Kakar, 1981; Seymour, 1999). Seymour (1999) states: "during the first two years of life the child is (. . .) during most of its waking moments, carried about on somebody's hip or held in someone's lap." (p. 72) and Kakar (1981) who characterizes the mother-child relationship as very close states: "This attachment is manifested in (and symbolized by) the *physical closeness* of the infant and his mother. (. . .) During the day she carries the youngest (. . .) astride her hip (. . .) as she goes about (. . .) errands. (. . .) Constantly held, cuddled (. . .) the Indian infant's experience of his mother is a heady one" (p. 80).

Co-sleeping, considered as an aspect of body warmth here, is a very common practice in India (Seymour, 1983, 1999; Kakar, 1981) and is assumed to provide the child not only with physical contact but also with emotional security (Seymour, 1999) and to prevent later behavioral problems (Anand, 1997). Kissing is not taken into consideration separately, by many studies. The studies that do (Keller, Abels, et al., 2005) tend to show rather low amounts of kissing for Indian infants. The authors say that there may be a cultural taboo against kissing.

The Distal Expression of Emotional Warmth (Facial and Verbal/Vocal Warmth) towards Infants in India

The amount of vocal and verbal warmth Indian infants experience has been described very differently by different authors ranging from "constantly (. . .) crooned and talked to"

(Kakar, 1981, p. 80) to “they avoided such shows of love for their own children, especially in public.” (Trawick 1992, p. 93). Sharma and LeVine’s (1998) observational data showed that affectionate talking made up 7.8 % of mothers’ caregiving behaviors and was approximately as frequent as smiling. The differences in the descriptions of mothers’ vocal/verbal warmth may be due to regional differences or the constancy Kakar described is partially due to other caregivers showing these behaviors and not the mothers. As for praise, authors seem to agree that praise in a direct form is rather rare in Indian families (Rohner, 1994; Seymour, 1983). Rohner (1994) claims this is a necessity of the mothers’ modesty because praising the child is like praising oneself, whereas Seymour (1983) argues that caregivers fear the evil eye or “maloccurrences”.

Facial warmth occurs through smiling (Seymour, 1999) and “positive looking” (Trawick, 1990; Sharma & LeVine, 1998). Seymour (1999) states that both of the groups she observed showed equal numbers of acts of smiling. Positive looking as observed by Sharma and LeVine (1998) made up 7.1% of maternal caregiving behavior. Trawick (1992) notes, that many women express their affection by affectionate looks towards other children but not towards their own children. A mother quoted by Trawick (1992) expressed “that a mother should never gaze lovingly into her child’s face, especially not while the child is sleeping, because the loving gaze itself could cause harm to the child” (p. 93). However, “[i]t was not the existence of mother love, but its concentration displayed through the eyes, that was dangerous” (ibid.).

Expressions of Emotional Warmth and the Interdependent and Autonomous-Related Family Models

Some of the divergence that can be found in the existing literature on Indian infants’ experiences of emotional warmth is probably due to differences between interdependent and

autonomous-related families. Infants in autonomous-related families seem to experience more body contact (Abels et al., 2005) or “nurturant acts” (including among others carrying and holding the child; Seymour, 1999) than infants from interrelated families. This may be caused more by the constraints in rural/traditional caregivers’ lives than by differential appreciation of body contact. A suggestion made by Abels et al. (2005) is that in fact caregivers in rural Gujarat value body contact highly and try to supply the infants with a body contact surrogate by putting them in a cloth swing.

There seem to be more clear-cut differences in the expression of emotional warmth between rural and urban and more and less traditional families in other areas. In settings in which interdependence is fostered, other caregivers kiss the child more often (Abels et al., 2005) or show other expressions of positive affect (Seymour, 1983) more often than the mother. In autonomous-related families it is mostly the mother who fulfills this role (Abels et al., 2005). The urban mothers also engage more in eye-contact with their infants (Abels et al., 2005). Presumably they also express emotional warmth in the facial and the verbal modality more frequently than their rural counterparts.

Affliction by the Evil Eye and the Expression of Emotional Warmth

There seems to be a notion among caregivers that the expression of emotional warmth towards an infant can harm the child, particularly by evil eye affliction (Trawick, 1992; Seymour, 1983; Spiro, 2005). This can happen through unrelated persons who become witnesses of the affectionate behavior (Spiro, 2005). A participant in Trawick’s study (1992) suggested however, that the mother’s display of love itself can be dangerous, even more dangerous because of the closeness between mother and child. The suggestion that the evil eye can be transmitted by the mother is somewhat surprising from a non-Indian perspective though this view also occurs commonly in Indian popular movies (N. Chaudhary, personal

communication, 23 September, 2006). Spiro (2005) reported that the affliction with the evil eye is usually associated with envy, jealousy or greed. Babies, small children and persons in transitional phases (e.g. from unmarried to married status) are said to be most prone to become victims of the evil eye. In infants the evil eye usually manifests itself in such symptoms as in the rejection of food or in extraordinary amounts of crying (Spiro, 2005). To protect their children, caregivers try to make children unattractive by blackening the baby's eyes or putting marks on other parts of the body (Spiro, 2005; Abels, 2002). They also dress their babies in old clothes for a certain period of time after birth, tie threads around the child's wrists or waist (Spiro, 2005) or make the child wear particular bangles. Caregivers feel that situations which could make other persons envious, for instance feeding the child in public, should best be avoided. That the mother herself could harm her child by displaying her affection was not mentioned by Spiro (2005) as one of her participants' concerns.

The belief in the evil eye seems to be far spread in India. It has been reported from the south (Trawick, 1992) and the east (Seymour, 1983) of India. It even seems to be a common belief among migrants from the west of India (Spiro, 2005). How common the belief is among non-migrant, present day urban middle-class families cannot be estimated from the existing literature.

Summary: Caregiving in India

Both interdependent and autonomous-related family setups and self-concepts can be found in India. Both types of families socialize the child for the membership in large (family) groups and therefore encourage the child from an early age onwards to interact with people other than his/her mother. The grandmother seems to play a special role for caregiving though this may be dependent on the family type in which the child grows up. Although joint families are usually the point of reference for most of the descriptions of caregiving in India, there

seem to be differences in different families. Fathers are more involved in child care in smaller families than in larger ones. The involvement of fathers may become necessary in the absence of other adult females in nuclear families or when the mother is also working in spite of the traditional role assignment for men and women.

Descriptions of mothers' behavior differ. Mothers are sometimes described to be indulgent and unconditionally affectionate. This is contrasted by the description of mothers who - though providing the child with fairly large amounts of body contact (e.g. through co-sleeping) - do not display other overt signs of affection towards their own children, especially not in public. It seems that the latter description is particularly true for interdependently oriented mothers, though this differentiation is seldom made. The rural/traditional (interdependent) mothers seem to be caregivers of the "cooler" type who do not display their affection publicly, particularly not in distal (facial and verbal) modes. For rural infants other caregivers probably play a larger role because these supplement the mothers' caregiving, for instance with face-to-face behaviors and kissing.

A point of concern for Indian caregivers while expressing emotional warmth is that the child may be afflicted with the evil eye. This might be particularly problematic if affection is shown in public. In these situations the caregiver's behavior might be seen by others and can attract envy. Some caregivers seem to believe that the mother can also transmit affliction with the evil eye.

Objectives and Research Questions

Emotional warmth has been a concept that has frequently emerged from studies on parenting behavior. Experiencing emotional warmth is related to the development of specific behaviors in children such as good interpersonal relationships, compliance, and respect for elders. Caregivers of some cultural groups- those that emphasize relatedness- value these behaviors highly, while others do not give them the same importance. The way that emotional warmth is expressed towards a child can take different forms, bodily, verbal, and facial. The latter two can be labeled distal in comparison to the more proximal bodily expression of emotional warmth. Distal parenting behaviors are shown more frequently by caregivers whose aim is fostering autonomy in their children. This pattern is probably also true for the expression of emotional warmth.

Caregivers' ethnotheories are one approach to studying parenting environments of children. Caregivers' ethnotheories are culturally shared beliefs and ideas that caregivers hold about children's development. Ethnotheories vary in accordance with ecological, economic, and social factors. These factors are also related to caregivers' orientation towards relatedness and autonomy. Therefore, ethnotheories are expected to reflect these orientations of the caregivers. However, the concepts used in psychological theories are not always congruent with people's ethnotheories. This might be the case for the ethnotheories Indian caregivers have on emotional warmth, too. An indigenous concept that seems to play a role in whether and in how emotional warmth is should be expressed is the belief in the evil eye.

Family members have been described to play a great role as caregivers in Indian families. Besides the mother who is the primary caregiver and the grandmother who is described as very affectionate towards her grandchildren, the roles of the other family members –are not as clear.

The objective of this thesis is to study Indian mothers' and grandmothers' ethnotheories on emotional warmth. The rural and urban areas represent interdependent and autonomous-related caregiving orientations, respectively. More specifically, the aims of the study are

- a. to examine how the participants' orientation towards relatedness is related to their emphasis on emotional warmth.
- b. to study how ethnotheories on the expression of emotional warmth are related to the caregivers' orientation on the agency dimension.
- c. to explore whether Indian caregivers' ethnotheories on how to express emotional warmth correspond to the propositions made by psychological theories, particularly by the component model of parenting.
- d. to explore beliefs on afflictions with the evil eye.
- e. to study the roles that are assigned to different family members in the expression of emotional warmth..

Relatedness and the Emphasis on the Expression of Emotional Warmth

Research on the developmental outcomes of experiencing emotional warmth and cross-cultural studies suggest that expressing emotional warmth may be emphasized more in cultural communities that stress relatedness. Urban Euro-American and German middle-class mothers' ethnotheories were used as a comparison and to introduce contrasting orientations on the relatedness dimension. It is expected that Indian mothers will stress both relatedness and the expression of emotional warmth more than the Euro-American and German mothers. Furthermore, regardless of the cultural community the participant belongs to, a positive relation between stressing emotional warmth and relatedness is expected. Within India, differences between mothers and grandmothers are expected. Grandmothers have been

described to be an important source of emotional warmth. They are therefore expected to show a greater orientation towards the expression of emotional warmth and relatedness than mothers. Members of joint families can be expected to be more oriented towards relatedness than members of nuclear families. Furthermore it has been hypothesized that larger families- usually joint families are larger than nuclear families- show more emotional warmth towards children. Therefore members of joint families are expected to be more oriented towards relatedness and emotional warmth than members of nuclear families.

Agency and the Modalities of Expressing Emotional Warmth

Differences in the agency dimension are not expected to be related to the emphasis caregivers put on emotional warmth, if the orientation on the relatedness dimension is comparable. However, the mode of expressing emotional warmth may be different for rural (interdependent) and urban (autonomous-related) Indian caregivers because the latter try to foster autonomy as well as relatedness. Furthermore, differences concerning the generation of the participants (mothers and grandmothers) are expected. India is a country undergoing rapid economic and educational changes, mothers are expected to be better educated and have a more autonomous orientation than grandmothers. Urban caregivers and mothers are expected to emphasize distal ways of expressing emotional warmth more than rural caregivers and grandmothers. The participants' family structure (nuclear and joint) will also be examined. The nuclear family can be perceived as a structure requiring more autonomy from mothers. The mothers are assumed to pass these orientations on in the interaction with their children, partially due to the structural limitations of the nuclear family that are related to the mother being main caregiver.

Correspondence between Indian Mothers' Ethnotheories and Theoretical Psychological

Conceptions of the Expression of Emotional Warmth

As pointed out earlier, it cannot be taken for granted that the psychological theories correspond to ethnotheories that participants hold. Therefore this thesis will explore whether the behaviors suggested by the component model of parenting as expressions of emotional warmth, are also mentioned most frequently by the Indian caregivers.

The evil eye

The concept of the evil eye is not covered by psychological theories but seems to play an important role in caregivers understanding of interpersonal dynamics. It can be seen as an example of an ethnotheory that touches on the topic of emotional warmth. The evil eye is thought to cause diseases and other unfortunate occurrences in peoples' lives. Caregivers in India are reported to have concerns about the evil eye, when they express emotional warmth towards children. That is, they feel that by expressing emotional warmth, they are endangering the child. This has been reported for caregivers from different parts of India and can therefore be expected to be fairly wide spread. This thesis aims to explore whether all caregivers hold these beliefs or, if not, what distinguishes those that do believe in the evil eye from those who do not believe in it. Furthermore the reasons for affliction with the evil eye will be explored.

Roles of the Family Members

The roles of the family members can be assumed to differ. The mother has been described as the primary caregiver, but other family members have also been described to play a big role for the child's caregiving. This thesis is going to explore what family members

are mentioned by the mothers and grandmothers and what is seen as each person's role in expressing emotional warmth.

Hypotheses and Research Questions

From the discussion above, the following hypotheses can be formulated for this thesis:

- 1) Caregivers' orientation towards relatedness and their emphasis on the expression of emotional warmth are positively related. Specifically, it is expected that:
 - Indian mothers are more oriented towards relatedness and emotional warmth than German and Euro-American mothers
 - Across cultural groups relatedness and emotional warmth are positively related
 - Within cultural groups relatedness and emotional warmth are positively related
 - Indian grandmothers emphasize relatedness and warmth more than Indian mothers
 - Indian participants from joint families are more oriented towards relatedness and emotional warmth than participants who live in nuclear families
- 2) There are differences in the modes of expressing emotional warmth within India related to the participants' orientation towards agency. The specific hypotheses are the following:
 - Urban caregivers emphasize distal expressions of emotional warmth more than rural caregivers
 - Mothers emphasize distal expressions of emotional warmth more than grandmothers

In addition, the following research questions are explored:

- 3) Do Indian mothers' ethnotheories and theoretical psychological conceptions on the expression of emotional warmth correspond?

- 4) What are rural and urban caregivers' conceptions of how to express emotional warmth and of what causes affliction with the evil eye?
- 5) How do Indian rural and urban mothers and grandmother perceive the family members' roles concerning the expression of emotional warmth? How is the family structure (joint vs. nuclear) perceived in this context?

Age of Participants' (Grand)Children

The caregivers (mothers and grandmothers) of this study have (grand)children of three months of age. Rohner (1986) claims, that the effects of the lack of warmth are largest for children above one year of age. A child of this age becomes capable of representing the caregivers' behaviors and of comparing her own caregivers with those of other children (Rohner, 1986). However, results from research on correlates of early parenting behavior and later development of the children (Keller, Yovsi et al., 2004; Keller, Kärtner, Borke, Yovsi, & Kleis, 2005; DeWolff & Van IJzendoorn, 1997) and theories of brain development (e. g. Schore, 2002) suggest that early interactional experiences do have lasting effects on infants' development.

The age of three months seems to be a good time to study the expression of emotional warmth towards babies. Babies at the age of three months are keenly interested in social interactions. A longitudinal study by Keller & Gauda (1987) showed that in German baby-mother interactions, eye-contact reaches a peak at around three months of age. There are also studies that have shown lasting effects of caregivers' behavior towards their children of this age (Keller, Yovsi et al., 2004; Keller, Kärtner, Borke, Yovsi, & Kleis, 2005). The baby's acquisition of new skills is indicated by ceremonies and the entrance of new phases in different cultures. For instance, there are postpartum seclusions that some families in the Middle East and Asia observe (Lewando Hundt et al., 2000; Chaudhry, 1990; Pillsbury, 1978;

Holroyd & Katie, 1997; Leung, Arthur, & Martinson, 2005). These usually end when the child is approximately 30 to 40 days old. After that the child is introduced to the family and to the larger cultural community (Saraswathi & Pai, 1997).

METHOD

The main emphasis of this study is on comparing different groups of participants within India, but there is also a cross-cultural section. A sample of mothers and grandmothers from rural Gujarat (India) was chosen to represent a cultural community with a predominance of the interdependent family model; a middle-class sample of mothers and grandmothers from Delhi (India) to represent a cultural community with a predominance of the autonomous-related family model. Middle-class samples of mothers from Berlin (Germany) and Euro-American mothers from Los Angeles (California, USA) were selected as representatives of environments with a predominance of the independent family model. The locales of the latter two samples are introduced only for the purpose of facilitating the comparisons.

Locales

Los Angeles, California, USA

Los Angeles is a metropolis in southern California. California is a state in the west of the United States and the city of Los Angeles is in the county of Los Angeles which has approximately 9.5 million inhabitants. The city is inhabited by 3.8 million persons (US census 2000). However the borders between the city and neighboring cities that form the “greater Los Angeles area” are not always very pronounced. The population of Los Angeles has been increasing over the last years and 41% of the population of Los Angeles is foreign born. Approximately 47% of the inhabitants are “white” which can be interpreted as a Euro-American origin. In approximately 38% of the households a child of less than 18 years is present and the average household size is 2.8. 67% of the population above 25 years of age has at least finished high school. The average per capita income is \$20671.

Berlin, Germany

Berlin is the capital of Germany with 3.4 million inhabitants and an area of 891 square kilometers. Berlin is located in the northeast of Germany. Less than 1% of the employees work in agriculture, 25% work in production, 19% in trade and transport related sectors, and 55% (or 830 000 persons) in other service jobs. Statistically, there are 41 cars and 52 apartments for 100 inhabitants (<http://www.bundeswahlleiter.de/strukteu/d/t/strkr11000.htm>). In Berlin the number of inhabitants has been fairly stable, contrary to Germany as a whole in which the population is decreasing (<http://www.destatis.de/presse/deutsch/pm2005/p2740021.htm>). More than 50% of the German population lives in adult-child communities (Statistisches Bundesamt, 2005) and approximately 2/3 of the 30-39 year olds in Germany have received more than primary education (Statistisches Bundesamt, 2003).

Delhi, India

Geographical Location

Delhi is the capital of India and is located in the North of India, on the banks of the Yamuna River and is surrounded by Haryana in the North, West and South and Uttar Pradesh in the East. Delhi is well connected to the rest of the country and internationally by three major railway stations, highways and the Indira Gandhi International Airport.

Delhi has a population of approximately 13.9 million inhabitants (Census of India: Delhi, 2001). Delhi is an urban, metropolitan area with approximately 93% urban population (Census of India, rural-urban distribution of population, 2001) and with less than 1% of the population working in agriculture (Census of India, Distribution of workers by category of workers, 2001). Delhi has a high population density (9294 per km²) and a rapid population growth of approximately 46% over the decade between 1991 and 2001 (Census of India: Delhi, 2001). More than 80% of the population of Delhi is literate (Census of India, Literate

population and literacy rate, 2001) and approximately 46% have attained a matric or college education (Census of India: Delhi, 1991). There is an abundance of schools, colleges and several universities in Delhi. Approximately 80% of all the households have electricity (Census of India: Delhi, 1991).

Climate

Delhi has a climate characterized by comparatively cold winters and hot summers. The winter begins in November. From the middle of March onwards the weather warms, reaching temperatures of 45 degrees in June. Here, the monsoon rains start in the later part of June. There is another period of rains in winter which adds up to approximately 2 to 3 months of humidity in an otherwise dry climate.

(<http://www.webindia123.com/territories/delhi/land/land1.htm#c>, retrieved 20th April 2006)

(Upper) Middle-class Families

Delhi, like the rest of India, is characterized by a great diversity of living conditions. There are, however, some conditions that generally hold for middle-class families which will be characterized briefly in the following section. While socio-economic status has been described in terms of income, education and occupation in some studies, Kumar (2004) has described middle-class families in Delhi in terms of their possessions. According to his six-level schema higher middle-class is defined by possessions such as cars or scooters, color TVs and refrigerators. In contrast to this, the upper class is characterized by possessing air conditioners, cars and computers. Lower middle-class families do not own cars but do have assets such as refrigerators, scooters, TVs or radios. Having a telephone is characteristic for both types of middle-class families. The easy availability of mobile phone connections renders the possession of a telephone as a determinant of class, questionable, however.

Another approach is to determine class with the help of additional information on occupation. Accordingly, prosperous industrialists, bureaucrats with high educational levels, politicians, and the military are described as forming an upper class (<http://www.country-data.com/cgi-bin/query/r-6051.html>). At the other end of the strata are the menial workers who form a large portion of the population. In between is an expanding middle-class, characterized by the ownership of consumer goods and their emphasis on education for their children. Wells (2001) states “For the Indian middle class, schooling is the measure of a family’s social status.” Parents perceive their children’s education as key to success in their occupation and economic security in the future. To summarize, members of the Indian middle-class have access to media such as television or radio, possess motorized vehicles and put great emphasis on educational achievement.

The households of middle-class families are also generally characterized by the presence of household helpers (Qayum & Ray, 2003). These may either live in the household or come to the household for specific tasks. The tasks that are most often fulfilled by household helpers are sweeping floors and washing dishes. If the household is wealthy enough, servants might also run errands, wash clothes, cut vegetables, or take care of children or elder family members. Qayum and Ray (2003, p. 529) quote one of their participants “We need servants to run such a large house”. However, even in new small apartments families feel they need and employ household helpers. This helps to make dual earner nuclear families possible.

Rural Gujarat

Geographical Location and Reachability

Gujarat is a state in the west of India bordering on Pakistan to the north and the Indian states of Maharashtra to the south, Madhya Pradesh in the east and Rajasthan in the north-

east. Gujarat has an area of 196,024 km² (Census of India: Gujarat, 1991) and a population of 50,596,992 (Census of India: Gujarat, 2001), 63 % of which does not live in urban areas (Census of India, rural-urban distribution of population, 2001). In 1991 there were 18,028 inhabited villages in Gujarat (Census of India: Gujarat, 1991).

The Nandesari area, the area in which the research was undertaken, is situated in the central plains of Gujarat. The central plains are densely populated and have been described as the state's economic and historical center (Bruesseler, 1992; Singh, 1971). Nandesari is located north of the city of Vadodara and the Nandesari area is inhabited by approximately 40,000 people (Ganju, Mehta, Lakhani, Buch & Thampi, 2003). The northern border of the area is marked by the Mahi river. Some of the villages are situated on or close to the old Baroda-Ahmedabad highway or the railway line and can be reached from Baroda easily by train, bus or shuttle rickshaw. There are also somewhat infrequent bus connections to some of the larger villages such as Angadh or Nandesari and recently, the two villages have been connected by local auto-rickshaws to the more remote villages. Transport between or to these villages can be costly (by local standards), complicated and/or strenuous, especially with the deterioration of the roads during the rainy season.

Climate, Vegetation and Agriculture

Winter, summer and rainy season constitute the three seasons in Gujarat. From November to February (i.e. winter) there are minimum temperatures between 2°C and 18.3°C. In the second half of June, monsoon rains start marking the end of summer. Temperatures rise up to 36.7°C - 43.3°C in the summer (Singh, 1971). The central plains of Gujarat receive approximately 40-80 cm of rain per year (Singh, 1971). Rain in winter and summer is rare. Many regions of Gujarat are in danger of droughts due to irregular and insufficient rainfall (Bruesseler, 1992; Singh, 1971). The natural vegetation of the region consists of dry thorny

forest or scrub (Singh, 1971) and agriculture in Gujarat depends largely on irrigation (Bruesseler, 1992). This also applies for the villages north of Baroda (cf. Bruesseler, map3, p. 23).

In the center of the central plains of Gujarat cotton and tobacco are grown. The food crops are millett (bajra), wheat and to a lesser extent vegetables, pulses and fruit (Bruesseler, 1992; Singh, 1971). Approximately 20% of the population of the State depends on agriculture, either as farmers or agricultural laborers (Census of India, Distribution of workers by category of workers, 2001).

Social Structure of the Villages

Caste is an important determinant of a family's status in rural India. Traditionally castes had different prescribed occupations in society with membership determined by birth (Betz, 1997). Although discrimination because of caste is prohibited by the Constitution of India, social differentiations between the castes persist (Betz; 1997; Schwerin, 1996). The castes (varnas) are organized hierarchically, and within any caste group there are further distinctions or subcastes (jati).

According to the general hierarchy of the varnas, Brahmins, who traditionally have religious, educational and advisory tasks in society, have a high status. Kshatriyas (warriors) and vaishyas (traders) are allowed to participate in religious study and ceremonies which is not permitted to Shudras (farmers) and people who are not included in the caste system (Schweizer, 1995). In an appendix of the constitution a number of castes and tribes whose situation is to be improved are listed. These "scheduled" groups, which are lowest in the caste hierarchy, have quotas in government enterprises and educational institutions. Social structure and caste dynamics are balanced upon position as well as dominance in the region (Betz,

1997). There are many regions of India where the highest caste of Brahmins is a minority and therefore subordinated to the dominant caste group that may be either Kshatriyas or Vaishyas.

The participants of this study are mainly Rajputs (Kshatriyas), who traditionally had occupational subdivisions that indicate different status ranging from being rulers to petty soldiers. Marriages usually take place between members of different subdivisions that are of approximately equal status. Traditionally women were expected to remain secluded and were not allowed to work outside the home. Traces of these traditions can still be found in gestures of respect or shame towards older men. For instance women usually cover their heads and faces whenever older males pass (laaj) (Ganju, Biju & Lakhani, 2004).

The structure of different villages can differ vastly in this region. Many of them are inhabited exclusively by Rajputs with a few jatis, others are more heterogeneous and may be inhabited by members of different castes or even scattered non-Hindu (e.g. Muslim, Christian) families. This is especially true for villages located near the highway and/or the industrial area in Nandesari as this infrastructure draws people into the villages. If caste groups are large enough they live in their own areas or lanes (Falliyu), especially in case of the registered castes. The villages differ in density. Although some of the villages consist of one dense cluster of houses, in others, particularly in those with more agricultural activities, houses are scattered or additional houses are located in the fields.

Regarding family structure, a majority of the families are extended, with multiple members and close relationships between neighbors who are often also relatives. Although not all families in the villages are joint, families try to either maintain ties with extended family members or if these are not existent (as in families who have come in search of labor), they create family-like ties with their neighbors.

Economic Structure and Division of Labor

Until the 1960s Gujarat's economy was mainly dependent on agriculture on the one hand and textile industries on the other hand (Bruesseler, 1992). Textile industries were mainly located in Ahmedabad, but to a lesser extent also in Baroda, Surat and Kheda (Bruesseler, 1992). After oil and gas had been found in Ankleshwar, Kalol, Kosamba and other places in the 1960s, a refinery was built close to Baroda. This resulted in the mushrooming of several linked industries (e.g. fertilizer and pharmaceutical productions) in the region (Bruesseler, 1992). These are major employers for people living in the area. However, since the 1990s there has been unemployment due to the closing down of factories related to globalization and because of standards the factories did not meet (Ganju et al., 2004).

It is considered men's major responsibility to sustain their families. Some families are mainly farmers with more or less land at their disposal. Rajputs, unlike some families belonging to lower castes in the villages do not raise goats or chicken and do not eat meat. Some of the men are employed by the industries in Nandesari. Others work as drivers or daily laborers, unloading trucks or helping in the harvesting of crops. There are also some small scale businesses in most villages. There are tailors, radio repair shops, snack or tea stalls and shops that sell sweets, groceries or tobacco.

The whole responsibility for household chores rests upon the women. These include fetching water, washing the clothes of the whole family, daily, gathering wood or drying cow dung for the cooking fire and preparing the meals which can be tedious work as rice and pulses always have to be checked for grit and vegetables have to be cleaned and cut. Household chores additionally include sweeping the house and washing the floor if it is made of concrete, at least once a day. It is also the women's responsibility to tend to infants and animals if there are any. If there are several women in the household, the chores are divided, with the youngest daughter-/sister-in-law usually having the largest load. There are also some

income-generating activities for women. One of them is cattle rearing which has also traditionally been the women's responsibility. Women, who used to get very little money for the milk, have started dairy cooperatives in the villages in order to sell their milk at a fair price without middlemen (Ganju et al., 2004). This became especially crucial after many men became unemployed, due to the changes in the industries. The kindergarten- and school teachers in the villages are also mainly women though they are sometimes not from the village itself. In self-employed and farming families women engage in many tasks such as helping during the harvest, sorting vegetables for the family's store or making tea and snacks. Only few of these occupations take women out of the home for extended periods of time so that women still spend most of their time working in or around the house.

Participants

The data for this thesis were collected as part of a larger research project funded by the German Research Council and the University of Osnabrueck (cf. Keller, Lamm et al., in press; Keller et al., 2005; Keller et al., submitted). Participants were selected on the condition that they had a healthy baby of three months of age \pm one week at the time of data collection. In the sample from Berlin, families in which either one or both parents were non-German were excluded. In the sample from Los Angeles only Euro-American mothers were selected. In the Indian samples, all participants were Indian and only Hindu participants were selected. The Euro-American and German samples consisted of Christians or Jews. The samples of highly educated, urban, middle-class mothers, required for theoretical reasons, middle-class were attained through voluntary sampling (Blaxter, Hughes & Tight, 1990) in Berlin and Los Angeles. In Berlin, participants were contacted through a doctor working in a maternity ward of a hospital, through placards in places that mothers and mothers-to-be frequent and in mother-child classes in which the project was briefly introduced and where

hand-outs were distributed. In Los Angeles mothers were contacted directly in public places by the researchers, through placards and an ad in a magazine on the topic of child care. In Delhi participants were contacted mainly through a doctor and by snowballing. About 10 % of the contacted mothers in Delhi refused to participate in the study or they were dropped because of prior incorrect information or coordination problems. The rural Gujarati sample is a quota sample (Blaxter et al., 1990) of mothers from the Nandesari area who were contacted through a non-governmental organization (Deepak Foundation) working in the area.

The sample characteristics for the cross cultural comparisons are presented in table 1 and 2. Table 1 depicts the mothers' mean age, education, family income, and number of household members. Table 2 shows the family structure, the children's gender and whether they are first or later-born.

Table 1: Sample Characteristics for the Cross-cultural Comparison: Mother's Age and Education, Family Income and Number of Household Members

Sample	N	Mother's age	Mother's education (yrs)	Family income (€/month)	Number of household members
Berlin, Germany	42	34.0 (3.9)	15.3 (3.4)	2442 (1144)	3.45 (.86)
Los Angeles, USA	25	34.9 (3.2)	17.0 (1.5)	12961 (16407)	3.52 (.59)
New Delhi, India	40	28.9 (3.2)	15.6 (1.4)	1071 (712)	5.78 (2.07)
Rural Gujarat, India	18	22.4 (4.6)	3.5 (4.9)	-	6.0 (2.38)

(SD) in brackets

Table 2: Sample Characteristics for the Cross-Cultural Comparison: Family Structure, Children's Gender and Birth Rank

Sample	N	% nuclear Families	% female Children	% first born children
Berlin, Germany	42	100	50	71
Los Angeles, USA	25	88	64	64
New Delhi, India	40	30	48	45
Rural Gujarat, India	18	44	61	44

For some research questions some of the children's grandmothers from Delhi and rural Gujarat were included in the analysis. The description of the sample of grandmothers is depicted in Table 3. Of the 14 participating grandmothers from New Delhi only one lived in a nuclear family, all the grandmothers in rural Gujarat lived within joint families. The households in which the rural Gujarati grandmothers lived consisted of 7.4 members on average, whereas the households of the New Delhi grandmothers consisted of 1 person less, on average.

Some participants were interviewed with a warmth interview schedule. These participants were sub-samples of the rural Gujarati (N=14) and the Delhi sample (N=10). They were comparable to the overall sample in that respect that the New Delhi mothers are older (30.2 years) and more educated (15.5 years of formal education) than the rural Gujarati mothers (age: 22.4; education: 3.9 years). These differences were statistically significant (age: $F(1, 22) = 18.74, p < .001, \eta^2 = .46$; education: $F(1, 22) = 74.90, p < .001, \eta^2 = .773$). This is in line with the general socio-economic differences between the rural and urban area described before. The household size for the New Delhi sub-sample was lower than that of the overall sample (5.6 members) and that of the Gujarati sub-sample higher (6.6 members) (n.

s.). Comparable numbers of rural (71.4%) and urban mothers (70%) lived in joint families and had first born children (urban: 60%; rural: 57.1). Half of the rural mothers had daughters, whereas 70% of the urban mothers had sons. This difference was statistically not significant, however ($\chi^2(1, N = 24) = 0.96, p = .33$).

Table 3: Sample of Indian Grandmothers Included in the Rural-Urban Comparison

Sample	N	Grand- mother's age	Grand- mother's education (yrs)	% female children	% first born Children
New Delhi, India	14	57.6 (5.4)	11.9 (4.3)	64.3	28.6
Rural Gujarat, India	8	48.3 (14.2)	0.7 (1.9)	50	50

(SD) in brackets

Materials

Background Interview

A background interview was conducted with both mothers and grandmothers on their family and socio-economic background. The interview included questions on the members of the household, their ages, the child's birth rank and the interview partner's marital status. Additionally, participants were asked about the household members' education, occupations, income and other socio-economic background information. This information was recorded in a data sheet which is attached to this thesis (Appendix A).

Videotaping of a Mother-Infant Play Session

The infants' mother was asked to play or interact with the child as she usually would. This was recorded for approximately 10 minutes. If the child was breast-fed in between, the camera was switched off for the duration of the breast-feeding. The video-taped interactions were not used in this thesis and were included in this description only for the sake of comprehensiveness.

Picture Card Interview

The mothers and grandmothers were asked to comment on six sets of pictures showing women from their own community with their three-month-old infants. The pictures were taken from videotapes that were made in the context of an earlier project or made for this specific purpose. The first set of photographs consisted of five photographs showing examples of behaviors from each of the five parenting systems (i.e. primary care- here: breast-feeding, body contact, body stimulation, face-to-face interaction, object stimulation) (c.f. Appendix B for the first five picture cards that were used in rural Gujarat). The other five sets showed three different ways of showing behaviors of the same parenting system. The interview partners were asked to state which maternal behavior they liked best or which was most important for the child. After their initial answer, they were asked to give reasons for their choice and the concepts they mentioned were probed further. These interviews were audio-recorded.

Emotional warmth interview

Preliminary informal interviews were conducted to find words in Gujarati expressing the concept of emotional warmth/ affection/ love. In Delhi the interviews were conducted in English (with Hindi interspersed) and the word “warmth” was used along with “love”,

“closeness” and “affection” which were used to explain “warmth” when it was first introduced.

Interviews on emotional warmth were conducted with urban and rural mothers and rural grandmothers. The interview included questions on how the family’s warmth towards the child should be expressed and who should express that. They were also asked whether there were any dangers in expressing warmth or if there were situations in which warmth towards a child should not be expressed. Questions on how the child gets the feeling of belonging to the family and on how the experience of warmth in a joint vs. a nuclear family differs were included (for the interview guideline see Appendix C). The interviews were audio-recorded.

A Note on Language

The usage of warmth for an emotion is metaphorical in English as it does not refer to the physical properties of warmth. In Gujarati and Hindi this metaphor is unknown. There are words to express the physical property of warmth or heat, but their usage for the emotion that is the topic of this thesis is not appropriate. Preliminary interviews were conducted with four Indians living in Gujarat with a good command of both Gujarati and English to find an appropriate translation into Gujarati. The four informants agreed upon the word “hoof”. “Hoof”, according to them, expresses the affection that a mother has for a child or an older person for a younger person. Whether it can also be used among friends was something the informants did not agree upon. A Gujarati-English Dictionary (Deshpande, 1974) also lists “warmth [fig.]” as a possible translation of “hoof”. Two respondents also suggested “lagni” as translation of warmth. According to Deshpande (1974) “lagni” can be translated as feeling, pity, compassion or sympathy. One respondent, however, rejected the translation of warmth as “lagni”. In his opinion “lagni” means compassion and can refer to a variety of emotions.

Two respondents pointed out that it might be possible to use the word “chaho”. According to Deshpande (1974) “chaho” means love, fondness, attachment, choice, preference or desire. One of the informants defined “chaho” as “love- or the expression of love”. When asked how this love could be expressed, she did not find an answer at first. But when asked about smiling and touching, she first said “yes”, then “no. If you are smiling at me it does not have to be, because you feel love (“chaho”) but it can be because of many reasons. “Chaho” shows in the eyes.” Another informant, however, pointed out that “chaho” includes an element of need. Another one suggested that the translation for love was “prem” which is also used to refer to romantic love. Proposed back-translations are love, affection, attachment or liking (Deshpande, 1974; Dwyer, 1995).

In the first interview, “hoof”, “prem” and “lagni” were used but “hoof” did not seem to be known to the participants. Therefore later on the words “prem” and “vhalo” were used most frequently. “Vhalo” means dear, according to several informants, and was commonly used and easily understood by the participants in the villages.

Parenting Practices and Family Allocentrism Questionnaire

A questionnaire on parenting practices during the first months of life and socialization goals for the first three years of life was administered in which the participants were asked to express their agreement to statements on a 1-6 scale (cf. Keller, Lamm et al., in press). The parenting practices questionnaire included items such as: “Babytalk is the wrong way to address a baby.” Or “It is good for a baby to sleep alone.” The questionnaire battery also included the Developmental Timetables. In this the participants are asked when they expect a child to reach certain developmental milestones, for instance seeing, recognizing the mother, showing sadness or walking. Additionally the Family Allocentrism scale (Lay et al., 1998) was administered. These questionnaires were conducted as interviews in the Indian samples

as some of the rural participants were illiterate. Another reason was that some mothers preferred interviews because it is possible to carry on with other activities such as breastfeeding the baby or cleaning vegetables, while talking to the interviewer. (See Appendixes D, E, and F for the questionnaires used.)

Procedure

Not all of the data that was collected as part of the project was used in this thesis; an interview on emotional warmth was inserted in the general procedure for sub-samples of participants in New Delhi and rural Gujarat who agreed to participate. The data collection in rural Gujarat was done by the author and a local assistant who visited the families together. The assessments in New Delhi were conducted by two local assistants who had Master degrees in Child Development and had been trained by the author. The data collection in Berlin and Los Angeles was done by two German researchers, one of them was the author. Additionally two German students who were working on their Masters theses and had been trained by the project staff collected data material.

Families living in urban areas were contacted by telephone, while the rural families were visited personally by the research team. The procedure was briefly explained to the potential participants during this first contact and if they consented to participate, an appointment was made. The procedure was finished, if possible, in one visit following the first contact. In case of the rural Gujarati sample several visits were often needed because the mothers' workload did not allow them to dedicate longer periods of time to the researchers. However there were also other reasons for the procedure being spread to several appointments such as the state of the baby (e.g. sleeping) which did not permit video-taping. Where applicable consent forms were prepared and the participants were asked to sign these.

The general procedure of the visit included administering a background questionnaire on the family, videotaping of a free interaction with the infant of approximately 10 minutes (only applicable for the mothers, not the grandmothers), a picture card interview, a warmth interview and a questionnaire battery on parenting practices, family allocentrism and developmental timetables. The order was not to be altered so that the questionnaires would not affect the interviews which in turn would not influence the maternal behaviors.

Transcription

Both the picture card and the emotional warmth interview were transcribed in the original language. In case of the interviews conducted in Gujarati or Hindi, the transcripts were translated into English.

Coding

The coding of the interview data was done with the help of the Atlas.ti software package (version 5). The statistical analyses were done with Microsoft Office Excel (version 2003) and SPSS (versions 12, 13 and 14).

Orientations towards Relatedness and Autonomy

The scores on the Family Allocentrism Scale were used as measures of the participants' orientation towards relatedness. The Family Allocentrism Scale has a high internal consistency (Cronbach's $\alpha = .89$) in the studied samples. The participants' educational achievements were taken as indicators of their orientation towards autonomy. Since educational achievement was closely tied to sample and generation (see Table 1 and Table 3), it was not used as an independent variable in the analyses.

Expressions of Emotional Warmth in the Parenting Practices Questionnaire

Four items from the parenting practices questionnaire were selected for theoretical reasons as indicators of emotional warmth. As indicator of the

- *facial expression of warmth*: “If a baby smiles, a mother should re-smile immediately.”
- *verbal expression of warmth*: “Babytalk is the wrong way to address a baby.” (inverted)
- *bodily expression of warmth* the average of two items were calculated:
 - a. “One should have a lot of close body contact with the baby.”
 - b. “It is good for a baby to sleep alone.” (inverted)

To summarize the *overall importance of emotional warmth*, the average of the three scores was calculated. The three aspects of the expression of emotional warmth correlate significantly ($p < .05$) with the summarized score (verbal: $r(144) = .20$; bodily: $r(144) = .59$; facial: $r(144) = .69$).

Codes according to the Component Model of Parenting

The interviews were coded according to a manual developed by Voelker et al. (2002- see Appendix G for the definition of the codes). The codes were primary care, body contact, face to face, body-, object-, and vocal stimulation, representing the parenting systems (Keller, 2002). Exclusive/ shared attention, distress regulation, distress prevention, contingency (which was not included in the analyses because it was not referred to in the interviews), warmth, body warmth, negative emotions, positive emotions represent the interactional mechanisms. Additionally, statements referring to the child being alone (or self-regulated) were coded (Keller, 2002; for the details of the coding manual see Appendix G). The author

and one more coder trained up to reliabilities of $\kappa = .8$. Inter-rater reliability was calculated for 10 interviews of different cultural groups and reached a κ of .87 Both the picture card and the warmth interviews were coded according to this manual. All of the emotional warmth interviews were coded by the second coder who was blind towards the hypotheses.

The code “play” was also used for the warmth interviews. “Play” is usually not coded according to the manual as it was not considered specific enough to be part of the components. However, during the warmth interviews the word “ramvu” (to play) seemed to be mentioned frequently by the rural Gujarati participants and the code was therefore included.

These codes were used on the one hand to analyze the behaviors mentioned spontaneously by the participants when they were asked to describe ways in which emotional warmth is expressed. On the other hand, they were used to characterize the different caregivers’ roles in expressing emotional warmth towards a baby.

Warmth according to the Component Model of Parenting

Several of the categories coded according to the component model of parenting manual were chosen to represent emotional warmth.

Bodily expression of emotional warmth: Comments relating to the mode and extent of body contact (i.e. all comments coded as body contact or body warmth).

Other expressions of emotional warmth: Comments referring to positive emotions or to the emotional expression of maternal behavior towards the infant excluding body contact.

Comments referring to affective sharing (e.g. laughing together, being on the same wave length) are also coded as emotional warmth (warmth).

Deductive Re-Analysis of the Other Expressions of Emotional Warmth

The other expressions of warmth as coded according to the component model of parenting in the picture card interviews of rural and urban Indian participants were re-analysed in a second step. The quotations were sorted into categories deductively, keeping in mind the theoretical framework described above. The categories that emerged are listed with examples in Table 4.

Table 4: Deductive Categories for Other Expressions of Emotional Warmth

Category	Example
abstract emotional warmth	“the mother loves the baby”
affective sharing	“the child and mother both are smiling”
Happiness during activities	“the mother is happily breast feeding the baby”
Facial warmth	“the mother is smiling at the baby”
verbal warmth	“and then I call her ‘Ritu’ [pet name]”

Coding of the warmth interviews

The warmth interviews were coded deductively according to different topics. One of these concerned the family members that were mentioned in the interviews and what was said about them. Another topic concerned the family type (nuclear and joint) and what participants said about the differences in roles according to family type. Furthermore, the statements that referred to the evil eye were coded.

Evil Eye

Statements that referred to the evil eye were coded. One step of analysis concerned the question whether participants believe in the evil eye or not. In another step the beliefs concerning the causes of the evil eye were identified and categorized.

Family members and family type

In the warmth interviews the sentences referring to family members were coded. These sentences were then analyzed for the different family members and summarized under categories according to the content of the statements. This was done for the mothers, fathers, grandparents, siblings and other family members. This was expected to shed light on the roles assigned to the different family members by the interview partners. A naïve coder confirmed the categories formed by the author.

Another step of analysis concerned the Components of Parenting that were mentioned in the statements about specific (potential) caregivers. The frequencies of these statements show which activities are seen as representative and crucial for each person.

The statements referring to the family type were coded throughout the warmth interview and also specifically as answers to the question concerning the family type. The roles of the family members were analyzed in relation to the family type whenever it was possible. There were also some general statements about the family structure that were analyzed accordingly.

Age at Recognition and Importance of Family Members

As part of the general questionnaire battery the participants were also asked when they expected children to develop certain skills or behaviors (Developmental Timetables, cf. Appendix D). There were questions concerning the age at which the children recognized the family members, namely the mother, father, grandmother, grandfather and the child's

siblings. These data were used in the analysis of the roles of the family members. They were regarded as indicators of the participants' perception of who interacts with the child most frequently, or of how important a family member is for the child. The frequencies with which certain caregivers were mentioned were also used as measures of the perceived importance of the caregiver for the child.

Statistical Treatment

Relatedness and the Emphasis on the Expression of Emotional Warmth

It was expected that participants who emphasize relatedness more, also stress the expression of emotional warmth towards a baby, more. This is expected to show in cross-cultural differences, across cultures, and between different groups of participants within India.

Cross-cultural Analyses

It was assumed that participants from cultural communities with a predominance of the interdependent or autonomous-related family model emphasize warmth more than their counterparts from cultural communities with a predominance of the independent family model. This hypothesis was tested with two ANOVAs (cf. Appendix H for an overview) comparing mothers of the Indian samples with mothers of the Euro-American and German samples in regard to

- A) their agreement to the parenting practices questionnaire items
- B) the number of times that behaviors expressing emotional warmth were mentioned in the picture card interviews (relative to the number of words spoken by the participant during the interview)

Contrasts between the samples from Berlin, Germany and Los Angeles, USA on the one hand and the two Indian samples on the other hand were calculated.

The hypothesis that emotional warmth and a person's orientation towards relatedness are connected irrespective of the participants' cultural community was tested with two correlational analyses. The participants' score on the Family Allocentrism Scale was correlated with

- C) the agreement on the parenting practices questionnaire items
- D) the number of times that the behaviors expressing emotional warmth were mentioned in the picture card interviews

Additionally, partial correlations using the groups of samples (German and Euro-American were assigned 1; Indian 2) as controlling variable were calculated. Again, the participants' score on the Family Allocentrism Scale was correlated with

- C_{modified}) the agreement on the parenting practices questionnaire items
- D_{modified}) the number of times that behaviors expressing emotional warmth were mentioned in the picture card interviews.

Intra-Indian comparisons

Differences related to participants' generation:

It was assumed that Indian grandmothers emphasize emotional warmth and relatedness more than mothers. To test the hypothesis concerning emotional warmth two MANOVAs (cf. Appendix H for an overview) with participants' generation and sample as independent variables were calculated. The following dependent variables were included:

- E) the overall agreement to the warmth items addressed in the questionnaire
- F) the frequency of warmth-related codes in the picture card interviews

For the hypothesis on relatedness a MANOVA with participants' generation and sample as independent variables and the participants' family allocentrism score as the dependent variable was calculated to test this hypothesis (analysis G).

Differences related to family structure

It was hypothesized that members of joint families emphasize emotional warmth more and are more inclined towards relatedness than members of nuclear families. The grandmothers' scores were excluded from the analyses on family structure because all participating grandmothers except one live in joint families.

MANOVAs (cf. Appendix H for an overview) with family structure (nuclear vs. joint) and sample as independent variables were calculated to test the hypotheses on the emphasis on emotional warmth in nuclear and joint families. The following dependent variables were included:

- H) the overall agreement to the warmth items addressed in the questionnaire
- I) the frequency of warmth-related codes per word in the picture card interviews
- J) A MANOVA with family type and sample as independent variables and the mothers' family allocentrism was calculated to test the hypothesis on relatedness.

The sample (rural Gujarat and Delhi) membership of the participants was treated as an independent variable in order to detect family structure * sample interaction effects.

Agency and the Modalities of Expressing Emotional Warmth

It was assumed, that participants who are members of cultural communities that stress agency more, also emphasize distal modes of expressing emotional warmth, more. Therefore, urban Indian participants from Delhi who are more highly educated than their rural counterparts are assumed to value fostering agency more and therefore stress distal (verbal

and facial) modes of expressing warmth more than their rural counterparts. Similar effects should be visible between the generations of mothers and grandmothers. Mothers are assumed to stress distal (verbal and facial) and abstract modes of expressing emotional warmth more than grandmothers.

The hypotheses on sample and generation were treated together and whenever possible only one analysis with both independent variables was calculated. This procedure does not only reveal the main effects but also possible interaction effects between the two variables. The MANOVAs (cf. Appendix H for an overview) calculated used the following dependent variables:

- K) the relative frequency of bodily warmth of all warmth codes in the picture card interviews
- L) the agreement to the three different aspects of warmth (facial, verbal and bodily) addressed in the questionnaire
- M) the “other expressions” of emotional warmth mentioned in the picture card interviews

The differences in spontaneously mentioned behaviors expressing emotional warmth could not be analyzed in the same way because the warmth interview had been done with only one grandmother from Delhi. Therefore only the rural Gujarati and Delhi mothers were included in the analysis. The basis of this analysis was provided by the answers to the question “how should emotional warmth be expressed towards a baby”. The frequency of codes was significantly higher in the interviews with mothers from Delhi than for mothers from rural Gujarat ($F(2, 21) = 4.42, p = .025$; partial $\eta^2 = .30$), both for the coded parenting systems (11.5 vs. 4.9; $F(1, 22) = 7.65, p = .011$; partial $\eta^2 = .26$) and the interactional mechanisms (10.7 vs. 5.4; $F(1, 22) = 6.74, p = .016$; partial $\eta^2 = .23$). Because of this imbalance the consequent analyses were done with the proportion of codes of a code group (e. g. body contact of all parenting system codes). Play and child alone statements which were also coded are not part of the theoretical structure of the component model of parenting and

are therefore treated separately. Consequently four ANOVAS were calculated with sample as the independent variable and as dependent variables

- N) the proportion of the parenting systems
- O) the proportion of the interactional mechanisms
- P) frequency of play
- Q) and the frequency of child alone statements

Correspondence between Indian Mothers' Ethnotheories and Theoretical Psychological Conceptions on the Expression of Emotional Warmth

The question whether or not the ways of expressing emotional warmth spontaneously mentioned by Indian mothers correspond with the psychological theories on the expression of emotional warmth was studied in this section. This section is explorative.

Two repeated measures ANOVAs (cf. Appendix H for an overview) were calculated on

- R) the relative frequency of different parenting systems while talking about the expression of emotional warmth. Contrasts between body contact, operationalizing the bodily expression of warmth, and the other parenting systems were calculated.
- S) the relative frequency of different interactional mechanisms while talking about the expression of emotional warmth. Contrasts between body warmth and warmth and the other parenting systems were calculated.

The mothers' sample membership (rural Gujarat vs. Delhi) was not taken into account because analyses N and O have already addressed these.

The Evil Eye- an Indigenous Concept

The analysis of the evil eye was based on descriptive statistics and qualitative methods and test statistical methods were not utilized.

The Roles of the Family Members

Statements about specific (potential) caregivers were coded concerning the parenting systems (V) and interactional mechanisms (W) that were mentioned in them. It was assumed, that these imply which activities are seen as representative and crucial for each person. ANOVAs (cf. Appendix H for an overview) were calculated to explore the different views of rural and urban mothers (1), and rural mothers and grandmothers (2), respectively. Additionally, to analyze how important each caregiver is considered for expressing warmth towards a baby, a repeated measures ANOVA (U) comparing the frequency with which the different (groups of) family members were mentioned was calculated. Specific analyses are labeled with a letter and a number, the letter indicating the dependent variables and the number indicating the independent variable (sample or generation). For analyses V and W an indicator of the family member is also added. Finally for mothers and other caregivers a repeated measures ANOVA (X) on the proportion of parenting systems was calculated to explore the differences between the different (potential) caregivers.

The questionnaire items “when do you expect a baby to first recognize his/her mother/ father/ grandmother/ grandfather/ siblings” were also taken into account to further explore the importance these persons are perceived to have. A repeated measures ANOVA (analysis T) was calculated for the questionnaire items with the whole Indian questionnaire sample treating sample and generation as independent factors.

RESULTS AND DISCUSSION

Relatedness and the Emphasis on the Expression of Emotional Warmth

It was hypothesized that there would be a positive relation between participants' orientation on relatedness and emphasis on emotional warmth. This was expected to be true in a cross-cultural comparison, across cultures and within cultures- an instance of this are the differences between distinct groups of participants within India.

Cultural Groups, Relatedness and Emotional Warmth

Emotional warmth was emphasized more by the Indian mothers than the urban German mothers from Berlin and the urban Euro-American mothers. This showed particularly strongly in the questionnaire items in which the cultural groups' agreement differed significantly (analysis A: $F(3, 100) = 13.95, p < .001$; partial $\eta^2 = .30$). While the Indian mothers agreed to the items on the expression of emotional warmth on an average with 4.66 (on a six point scale), the Euro-American and German mothers sample agreed with 4.21 on average ($F(1, 100) = 32.17, p < .001$; partial $\eta^2 = .24$; see Figure 2).

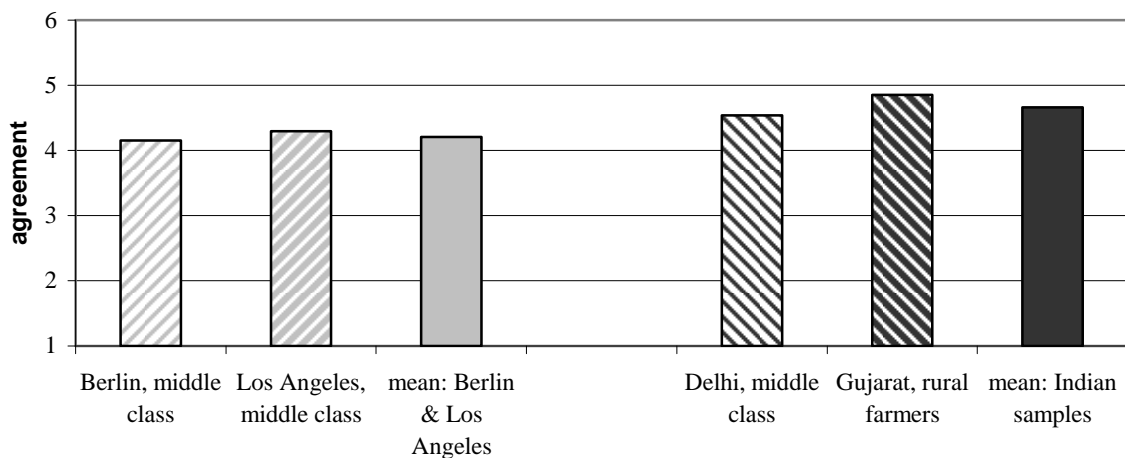


Figure 2: Mean Agreement to the Warmth-Related Questionnaire Items by Mothers of the Urban German, Euro-American and Indian Samples (Analysis A)

The cultural groups also differed in terms of the relative frequency of warmth-related behaviors mentioned in the picture card interviews (analysis B: $F(3, 106) = 5.34$, $p = .002$; partial $\eta^2 = .13$). However the result fell in line with the questionnaire items only to some extent. The contrast was not significant, though a trend in the expected direction was observed ($F(1, 106) = 3.03$, $p = .085$; partial $\eta^2 = .03$). However, a Scheffé post-hoc test showed that the mothers from Delhi differed significantly from the German ($p = .009$) and the Euro-American sample ($p = .034$), whereas the rural Gujarati sample did not differ significantly from any of the other three samples (German and Euro-American: $p = .996$; Delhi: $p = .064$; see Figure 3).

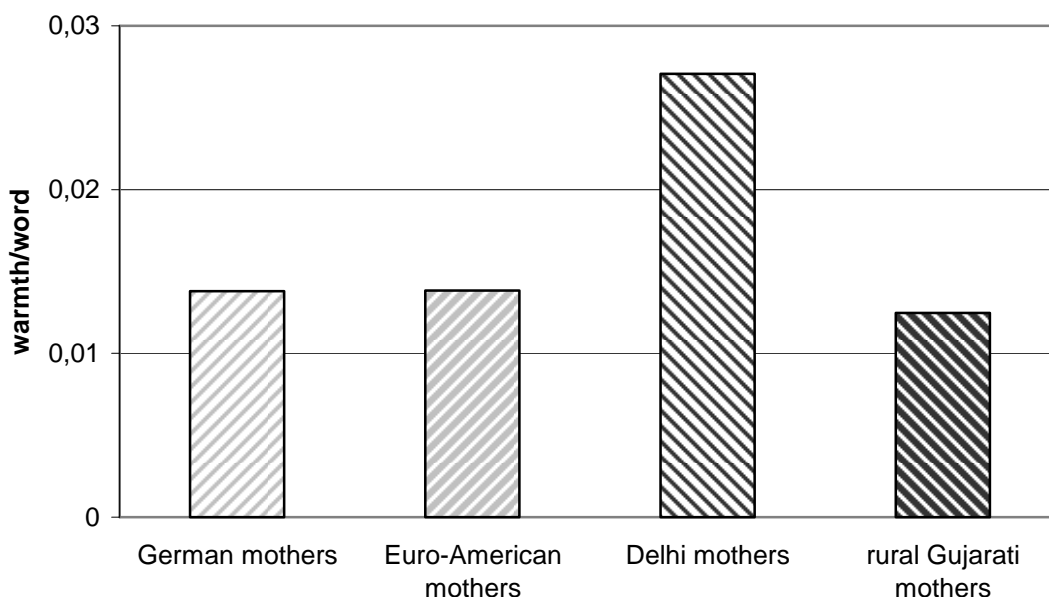


Figure 3: Mean Frequency of Warmth/Word in the Picture Card Interviews with Mothers of the Four Different Samples (Analysis B)

Besides these indirect linkages between the measures on the importance of emotional warmth and family allocentrism, a direct relation across cultures was also expected. The scores on family allocentrism significantly correlated both with the participants' agreement to

the questionnaire items (analysis C: $r = .17$; $p = .042$) and the relative frequency of emotional warmth mentioned in the picture card interviews (analysis D: $r = .30$; $p = .004$).

The emphasis on emotional warmth was also expected to be correlated with the results on family allocentrism within the groups. Counter to this hypothesis the partial correlations revealed that the family allocentrism score was not significantly correlated with the agreement to the questionnaire items (C_{modified} : $r = .14$; $p = .183$) nor with the frequency, emotional warmth was mentioned in the picture card interviews (D_{modified} : $r = -.09$; $p = .418$).

As expected, the sample groups showed differences in their family allocentrism scores, with the German and Euro-American sample scoring lower than the two Indian samples. A T-test with the a priori assigned group membership as the independent and family allocentrism ($t(140) = -12.41$, $p < .001$) as dependent variable revealed the statistical significance of this difference. Figure 4 depicts that the mean scores of the two groups plus/minus one standard deviation do not overlap.

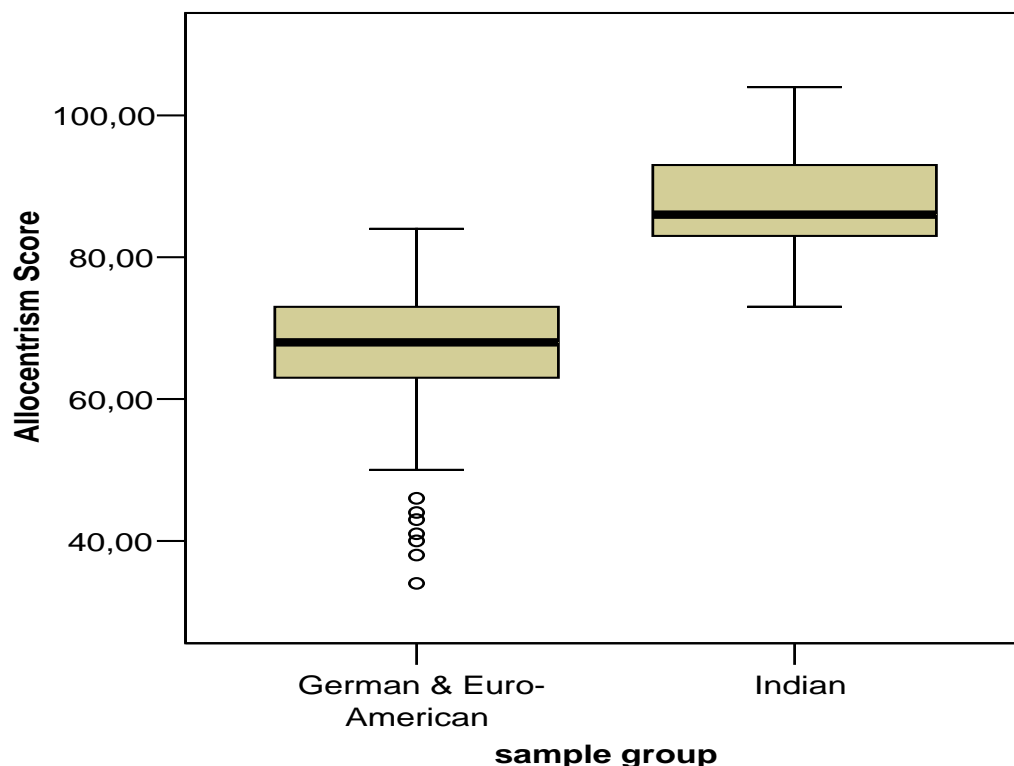


Figure 4: Boxplot: German and Euro-American vs. Indian Scores on the Family Allocentrism Scale

Intra-Indian Differences

Participants' Generation

The results on the generational differences between mothers and grandmothers diverge in the two measures of emotional warmth (E and F; see Table 5). While the mothers showed higher agreement in the questionnaire items concerning emotional warmth, the grandmothers mentioned warmth more often in the picture card interviews.

Table 5: Participants' Generation and Emphasis on the Expression of Emotional Warmth

		F	df	<i>p</i>	partial η^2	Direction
Analysis E:	Sample	3.48	1, 48	.068	.07	R > D
Agreement	Generation	9.00		.004	.16	M > G
to	Sample*					
questionnaire	generation	0.83		.365	.02	
items						
Analysis F:	Sample	0.46	1, 66	.502	.01	D > R
warmth in	Generation	4.67		.034	.07	G > M
picture card	Sample*					
interviews	generation	1.97		.166	.03	

R – rural Gujarat; D – Delhi; M – mothers; G – grandmothers

As was expected, the grandmothers scored higher than the mothers in the Family Allocentrism Scale ($F(1, 48) = 4.36, p = .04$; partial $\eta^2 = .08$). This was true for grandmothers in both samples, therefore the generation *sample interaction did not reach significance ($F(4, 45) = 0.15, p = .704$; partial $\eta^2 < .01$; analysis G). The rural Gujarati participants also scored

significantly higher than the participants from Delhi ($F(1, 48) = 18.89, p < .001$; partial $\eta^2 = .28$).

Family Structure

There were no significant differences in the emphasis on the expression of emotional warmth between mothers living in nuclear and joint families. Mothers living in joint families did not mention warmth more frequently in the picture card interviews than mothers living in nuclear families (see analysis I, Table 6). Descriptively, the agreement to the questionnaire items differs in the expected direction, with mothers from joint families showing higher agreement to the questionnaire items (see analysis H, Table 6).

Table 6: Family Structure and Mothers' Emphasis on the Expression of Emotional Warmth

		F	Df	<i>p</i>	Partial η^2	Direction
Analysis H: Agreement to questionnaire items	Sample	12.62	1, 34	.001	.27	R > D
	Family	3.89		.057	.10	J > N
	structure					
	Sample*					
	family	0.89		.352	.03	
	structure					
Analysis I: warmth in picture card interviews	Sample	1.79	1, 41	.188	.04	
	Family	0.21		.650	< .01	
	structure					
	Sample*					
	family	1.34		.253	.03	
	structure					

R – rural Gujarat; D – Delhi; J – joint families; N – nuclear families

The results on the family allocentrism scores suggest that the family structure the participant lives in does not have a significant effect on the orientation towards relatedness ($F(1, 33) = 0.12, p = .912$; partial $\eta^2 < .01$). The interaction between family type and sample is also not significant ($F(1, 33) = .62, p = .438$; partial $\eta^2 = .02$) although members of rural nuclear families score slightly higher on family allocentrism than members of rural joint families, while this pattern is reversed for the urban families. The samples however differ ($F(1, 33) = 13.17, p = .001$; partial $\eta^2 = .29$), which is in line with the results of analysis G.

Discussion: Relatedness and the Emphasis on Emotional Warmth

The hypothesis that the emphasis participants lay on the expression of emotional warmth is connected with relatedness was partially confirmed. Correlations between the Family Allocentrism Scale and the warmth measures support the hypothesis, however only across cultures. In the comparisons between groups that were assumed to differ in their orientation towards relatedness, partial confirmations of the hypothesis were provided by the cross-cultural comparison and the mothers' and grandmothers' data. A connection between family structure and the expression of emotional warmth could not be found.

Cultural Groups, Relatedness and Emotional Warmth

The cross-cultural data show large differences in family allocentrism scores which were used as the measure for relatedness and differences in both measures of warmth, particularly in the questionnaire data. The direct statistical relation between family allocentrism and emotional warmth scores, also support the hypothesis that warmth and relatedness are related positively. The participants' scores on family allocentrism were so closely related to their membership in a particular sample group that in the partial correlation

family allocentrism ceased to be related to the two measurements of warmth. The data of the picture card interview yielded less convincing results than the questionnaires in the cross-cultural analysis. The Gujarati sample did not differ from any other group in the relative frequency with which warmth-related behaviors were mentioned. The rural Gujarati mothers' answers tended to be rather monosyllabic and were sometimes difficult to code. This is illustrated with an excerpt from the interview with Kamala⁴, a 16 year old rural Gujarati mother of a first-born daughter. She has not attended school and lives in a nuclear family:

Interviewer: What can you see?
Kamala: It's standing.
Interviewer: Is it good to stand?
Kamala: Good.
Interviewer: For whom is it good?
Kamala: For the child.
Interviewer: Why is it good?
Kamala: If we make him stand it makes the child's legs free.

A reason for this could be that the interview situation might have favored mothers with higher levels of education. Gujarati mothers, who have 3.5 years of formal education on the average, may not have been capable of voicing their ideas as easily as the more educated mothers of the other samples. This may be related to the culture-specific styles of teaching that were described earlier and that are reflected in daily communication. For the rural Gujarati mothers communication may be based on nonverbal gestures to a larger extent than for the urban participants. Additionally, rural Gujarati participants may not have been as familiar or comfortable with the one-to-one interview situation. This is illustrated by the fact that usually several family members were present when the assessment was taking place. Other family members had to be instructed not to participate- it was a common impulse for them to comment or prompt- and the assessment was sometimes removed from the family members present. Interjections by passing neighbors and newly arrived family members could not always be avoided. Sometimes the mothers also called out to other family members to

⁴ Names changed; cf. Appendix for an overview of background information on mothers and grandmothers whose interview excerpts are used as illustrations

help them in handling the baby (video) or answering the questions (interview). This participation in others' lives is facilitated by the open set-up and permeability of most of the houses in the Gujarati villages. Doors are not usually locked or even closed; many chores are performed in the open in the presence and constant observation by others.

Additionally, young Gujarati mothers may have been inhibited to express an opinion. Girls are raised to be obedient and loyal members of their in-laws family after marriage. They may be hesitant to voice an opinion of their own. Their opinion could create tensions in the household by angering their mothers-in-law, who are usually the authority in household and child rearing matters. Apart from that, the expression of an opinion may be interpreted as a sign of lacking respect by the mothers-in-law. The mothers from Delhi, having been older and more educated at marriage than their rural Gujarati counterparts, may have been less reluctant to express their own opinions. They may also feel less dependent on their mothers-in-law, approximately 25% of them holding jobs outside the home and some of them having married by self-selection.

Even though differences were found between the groups in their emphasis on the expression of emotional warmth, there seems to be some agreement among the mothers of the samples studied here, that emotional warmth should be expressed towards a baby (cf. Figure 2, Figure 3). Although four samples are not a sufficient basis to argue for universality, these results suggest that mothers of different cultural communities perceive the expression of a certain amount of emotional warmth as a crucial part of parenting. This is in line with theories that emphasize the necessity of experiencing emotional warmth and relatedness for the child's development (Kagitcibasi, 2005; Rohner, 1986; Maccoby & Martin, 1983).

Generation

Grandmothers score higher on family allocentrism and mention behaviors associated with the expression of emotional warmth more frequently in the picture card interviews than mothers. The hypothesis that grandmothers stress relatedness and emotional warmth more than the mothers is confirmed by this result. However, the results from the questionnaires contradict these results, as mothers score higher on the questionnaire items than grandmothers. One of the questionnaire items (“If a baby smiles, a mother should re-smile immediately.”) explicitly refers to the mother. And although there was a total of four items, this might have led to the grandmothers’ lesser agreement to the questionnaire items (cf. Agency and the Modalities of Expressing Emotional Warmth).

Family Structure

The family structure, which has been suggested in the literature as an important factor influencing the child’s experience of emotional warmth, was related to neither family allocentrism, nor the expression of emotional warmth in the picture card interviews in a statistically significant way. The only significant difference between mothers from nuclear and joint families concerned the questionnaire items. This difference is in the expected direction- that is, mothers from joint families agreed more to the items on warmth-related behaviors than mothers from nuclear families.

These results are in contrast with the study by Rohner and Chaki-Sircar (1988) that had found the family structure to be a factor of major influence on the expression of emotional warmth and had shown warmth to be lower in joint families. Generally, there may also be problems with the rather coarse distinction between nuclear and joint families. It might after all, not be the family structure per se that influences the mothers’ warmth. In this study neither the family relationships and their quality, nor the factors that may have led to

the existing family structure were taken into account. Although the joint family constitutes the preferable family set-up for both rural and urban participants (cf. Figure 19), there may be differences. It is possible that some persons, particularly urban ones, choose to live in joint families because they are more oriented towards family allocentrism to begin with, while others particularly rural ones, who would prefer to live in a joint family are forced by circumstances, for instance the death of a family member or work-related migration to live in nuclear families. The interaction between sample and family structure on the family allocentrism scale supports this interpretation.

Agency and the Modalities of Expressing Emotional Warmth

It was expected that within India there would be differences in the modes of expressing emotional warmth according to the participants' orientation towards agency. Education, the indicator of an agentic orientation, differed both between the rural Gujarati and the Delhi sample and between grandmothers and mothers. It was expected that these groups would also differ in their preferred modes of expressing emotional warmth.

The results revealed that mothers and grandmothers did not differ significantly in their preferred modalities for the expression of emotional warmth. The samples differed, as was expected, with the caregivers from Delhi emphasizing abstract concepts and distal expressions more, with the exception of vocal warmth as assessed in the questionnaire. There was a tendency of a generation * sample interaction effect for the item concerning mother's smiling at the baby.

Sample * Generation Interaction

There were no significant interactions between sample and generation in either of the analyses done on the picture card interviews- that is the relative frequency of bodily expressions of warmth (analysis K: $F(1, 64) = 2.51, p = .118$; partial $\eta^2 = .04$) and re-analysis on the aspects of the code "warmth" (analysis M: $F(5, 45) = 0.69, p = .637$; partial $\eta^2 = .07$). However there was a tendency for an interaction in the questionnaire item analysis (analysis L: $F(3, 46) = 2.68, p = .058$; partial $\eta^2 = .15$). This interaction was not observable in the items on body ($F(1, 48) < 0.01, p = .998$; partial $\eta^2 < .01$) or vocal warmth ($F(1, 48) = 0.04, p = .884$; partial $\eta^2 < .01$) but only on facial warmth ($F(1, 48) = 7.91, p = .007$; partial $\eta^2 = .14$).

Figure 5 shows that mothers and grandmothers from Delhi and mothers from rural Gujarat scored almost equally high on the facial warmth item. Only grandmothers from rural Gujarat agree less to the facial warmth item.

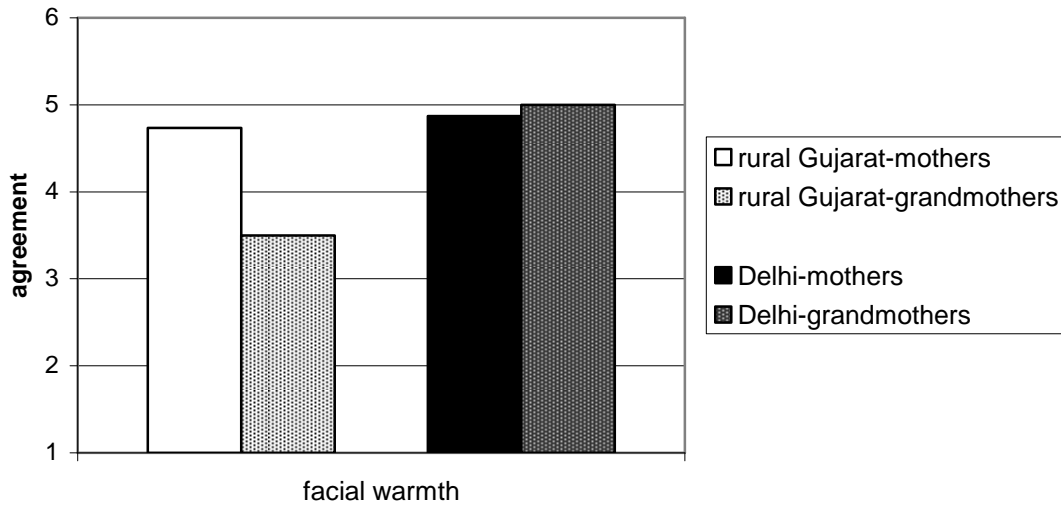


Figure 5: Sample * Generation Interaction for Facial Warmth

Generation

Mothers and grandmothers did not differ significantly in their emphasis on different aspects of the expression of emotional warmth. This was true for the analysis of the relative frequency of bodily expressions of warmth mentioned in the picture card interview (analysis K: $F(1, 64) = 0.01, p = .908$; partial $\eta^2 < .01$), the questionnaire items (analysis L: $F(3, 46) = 2.14, p = .108$; partial $\eta^2 = .12$) and the other aspects of emotional warmth coded in the picture card interviews (analysis M: $F(5, 45) = 0.78, p = .572$; partial $\eta^2 = .08$).

Samples

The urban sample generally put a greater emphasis on distal expressions of warmth as is visible from their answers to the question how warmth should be expressed towards a baby and on the proportion of distal warmth of their warmth codes in the picture card interview. The questionnaire data yielded only partially (for smiling but not for baby talk) similar results. The analysis of the “warmth” codes showed that if non-proximal expressions of

warmth were described by rural participants, the descriptions tended to be concrete rather than abstract.

Aspects of the Expression of Emotional Warmth

The rural Gujarati and the Delhi samples differed in the emphasis they put on different aspects of emotional warmth. In the picture card interviews, the proportion of bodily expressions of emotional warmth was higher in the rural Gujarati sample (analysis K; $F(1, 64) = 14.60, p < .001$; partial $\eta^2 = .19$). While approximately 77% of the Delhi participants' statements on warmth concerned the bodily expression of warmth, almost 92 % of the rural participants' statements concerned the bodily expression of warmth. This means that 23% of the Delhi mothers' statements about warmth concerned other aspects (), while this was true for only 8% of the rural Gujarati mothers' statements.

The samples also differed in their agreement to the questionnaire items concerning different aspects of expressing emotional warmth (analysis L; $F(3, 46) = 15.47, p < .001$; partial $\eta^2 = .50$). While the samples did not differ in their agreement to the bodily expression of emotional warmth- that is to the items on close body contact and co-sleeping with the child ($F(1, 45) = 1.40, p = .283$; partial $\eta^2 = .02$), they differed significantly in their agreement to the scores concerning the distal expressions of warmth. The difference was in the expected direction for facial warmth (smiling; $F(1, 45) = 11.38, p = .001$; partial $\eta^2 = .19$) but opposite to the expected direction for the vocal warmth (baby talk; $F(1, 45) = 26.60, p < .001$; partial $\eta^2 = .05$) as is depicted in Figure 6.

The ANOVA on aspects of "other expressions of warmth" (analysis M) also yielded a significant effect for sample (see Figure 7; $F(5, 45) = 4.74, p = .001$; partial $\eta^2 = .35$). The samples did not differ in the proportion of abstract statements on emotional warmth ($F(1, 49) = 1.38, p = .246$; partial $\eta^2 = .03$), affective sharing ($F(1, 49) = 0.14, p = .908$; partial $\eta^2 < .001$) or verbal warmth ($F(1, 49) = 0.05, p = .825$; partial $\eta^2 = .001$). There were significant

differences between the samples in terms of experiencing happiness during activities with the child ($F(1, 49) = 5.06, p = .029$; partial $\eta^2 = .09$) which was only described by the Delhi participants but not by the rural Gujarati mothers and grandmothers, and facial warmth which was more prevalent in the rural Gujarati than the Delhi participants' interviews ($F(1, 49) = 20.10, p < .001$; partial $\eta^2 = .29$).

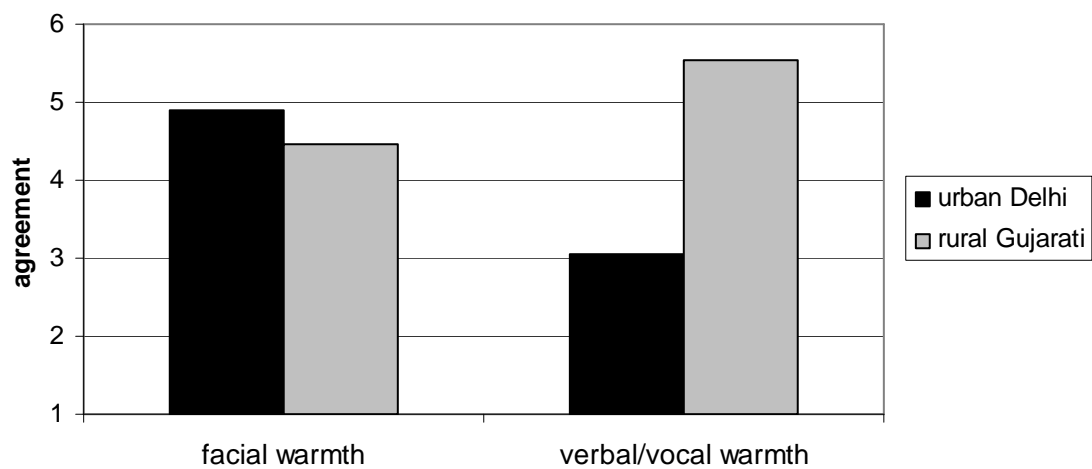


Figure 6: Delhi and rural Gujarati Participants' Agreement to Facial and Verbal/Vocal Warmth Items

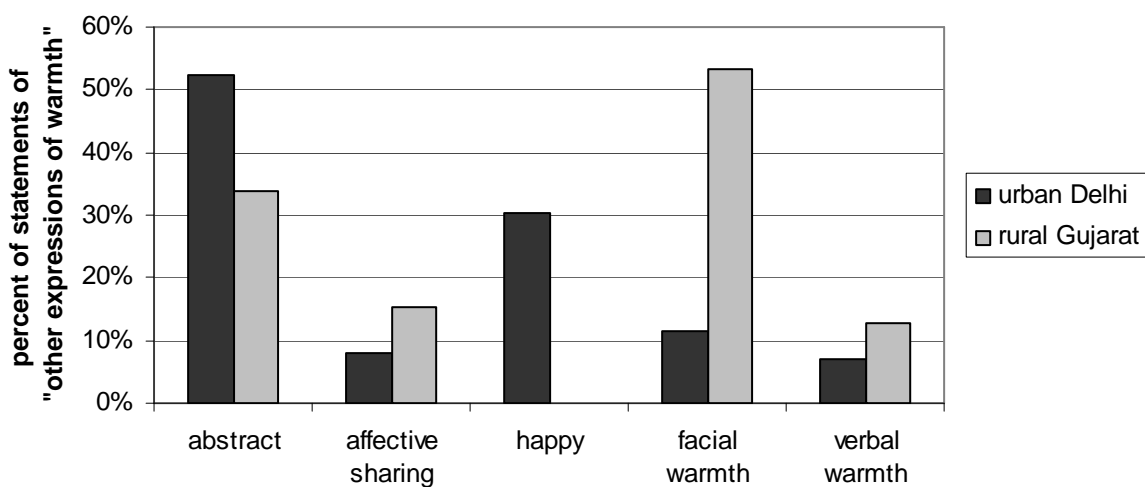


Figure 7: Distribution of Aspects of "Other Expressions of Warmth" Mentioned by Delhi and Rural Gujarati Participants

Parenting Behaviors Mentioned as Expressions of Emotional Warmth (Analyses N and O)

The two samples did not differ significantly in terms of the parenting systems used to describe activities that, in their opinion, express emotional warmth (analysis N: $F(5, 16) = 1.93$, $p = .146$; partial $\eta^2 = .38$). However, the differences that can be observed are in the expected direction (see Figure 8) and will be described briefly.

For both groups body contact seems to be the major parenting system through which emotional warmth can be expressed towards a baby. Yet, while rural Gujarati mothers see primary care as the next most important parenting system, this is mentioned less frequently by the Delhi mothers who mention vocal/verbal stimulation second most frequently. Face-to-face behaviors and object stimulation is not mentioned at all by the rural Gujarati mothers, but play a certain role for the Delhi mothers. On the other hand, the rural Gujarati mothers mention body stimulation more frequently (cf. Table 7).

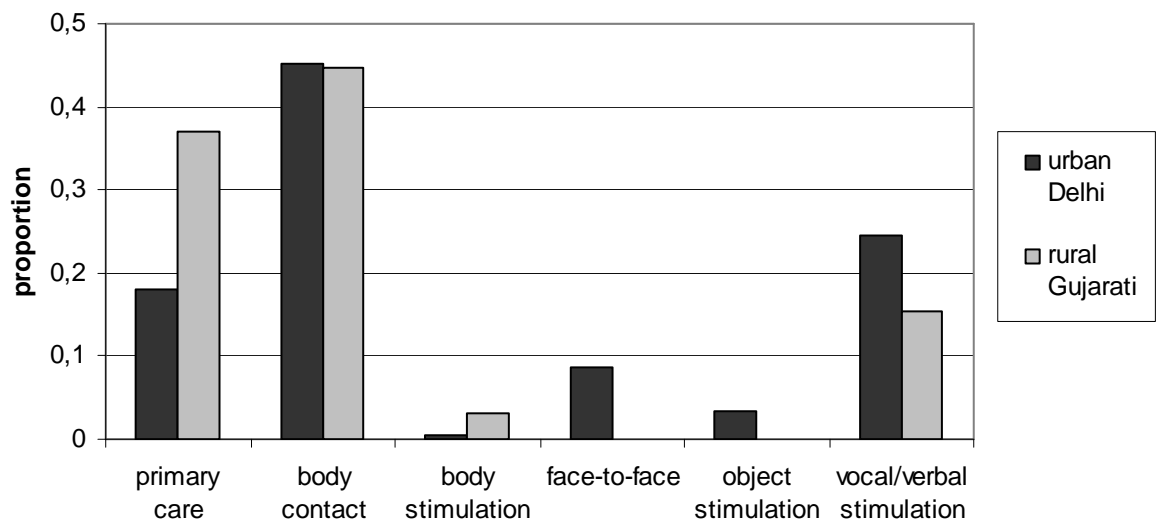


Figure 8: Proportion of Parenting Systems Mentioned by Delhi and Rural Gujarati Participants

Table 7: F-Statistics for the Proportion of Parenting Systems Mentioned by Delhi and Rural Gujarati Mothers as Expressions of Emotional Warmth

	F-Value Df 1, 20	<i>p</i>	partial η^2
Primary care	1.84	.190	.08
Body contact	< 0.01	.971	< .01
Body stimulation	0.82	.377	.04
Face-to-face	4.41	.049	.18
Object stimulation	2.40	.137	.11
Vocal/verbal stimulation	0.66	.426	.03

The two samples showed a tendency towards a difference in the interactional mechanisms used to describe activities that express emotional warmth (analysis O: $F(6, 16) = 2.30$, $p = .086$; partial $\eta^2 = .46$). Because of the effect size of $\eta^2 = .46$, an interpretation of the differences (see Figure 9 and Table 8) will be done cautiously.

Most of the statements of both Delhi and rural Gujarati mothers that concern interactional mechanisms referred to warmth, but most other codes were rare, especially in case of the rural Gujarati mothers. Maybe the largest difference was visible in the code “body warmth” which applied to approximately 10% of the Delhi statements on interactional mechanisms but to none of the rural Gujarati mothers’.

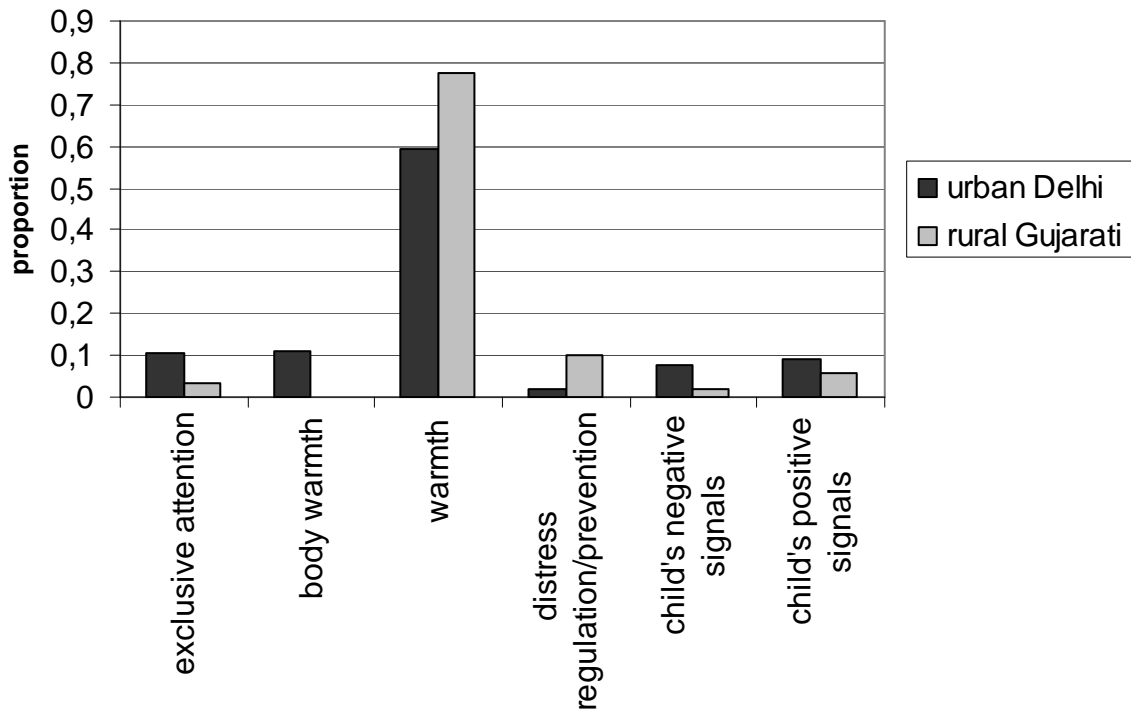


Figure 9: Proportion of Selected Parenting Systems Mentioned by Delhi and Rural Gujarati Participants

Table 8: F-Statistics for the Proportion of Interactional Mechanism Mentioned by Delhi and Rural Gujarati Mothers as Expressions of Emotional Warmth

	F-Value	<i>p</i>	Partial η^2
	Df 1, 20		
Divided attention	< 0.01	.969	< .01
Exclusive attention	2.14	.158	.09
Contingency	.	.	.
Body warmth	5.11	.034	.20
Warmth	2.17	.156	.09
Distress prevention/ regulation	2.14	.158	.09
Child's negative signals	1.30	.266	.06
Child's positive signals	0.29	.597	.01

Play and Child Alone Statements mentioned as Expressions of Emotional Warmth (analyses P and Q)

There were no significant differences in the frequency playing ($F(1, 22) = 0.21, p = .885$; partial $\eta^2 < .01$) and child alone was mentioned ($F(1, 22) = 2.03, p = .168$; partial $\eta^2 < .08$). However, the rural Gujarati mothers mentioned playing more often (2 vs. 1.8 times) while the Delhi mothers made child alone statements more frequently (0.38 vs. 0.0 times). The overall absolute frequency of playing in comparison with other codes is quite high for the rural Gujarati mothers who, on average, mentioned only 5 interactional mechanisms and 5 parenting systems. Playing was mentioned by them approximately as frequently as primary care.

Discussion: Agency and the Modalities of Expressing Emotional Warmth

There is some support for the hypothesis that more autonomy-fostering participants would stress distal expressions of emotional warmth more than less autonomy oriented participants. The mothers living in Delhi did indeed emphasize distal modes of expressing warmth to a larger extent than their rural counterparts. There is also a difference in the level of abstraction that rural and urban mothers use. The rural mothers' descriptions tended to be more concrete, referring to observable (in this case distal) behaviors. The urban mothers on the other hand rely more on abstract constructs such as love and happiness. The difference that was expected between rural mothers and grandmothers could not be found.

Rural-urban Differences

Before discussing the differences between the participants from rural Gujarat and Delhi, the similarities will be stated. Both the rural Gujarati and the participants from Delhi

emphasize the bodily expression of emotional warmth (cf. analysis K, analysis L). That is, both groups mention it frequently and in the questionnaire, the two groups did not differ in their emphasis on bodily expressions of emotional warmth. This is a result that strengthens the hypothesis that both samples emphasize relatedness and it qualifies the result that the samples differ on the presumably more direct measure of relatedness, the Family Allocentrism Scale. The rural Gujarati participants stress family allocentrism significantly more than their Delhi counterparts. The difference could be due to the wording of some of the items that may have implied economic dependence of parents on their children (e.g.: “I would look after my parents in their old age”). It is possible that the Family Allocentrism Scale does not measure only relatedness in Kagitcibasi’s (2005) sense, but also aspects such as economic interdependence. According to Kagitcibasi (2002) interdependence in an economic sense would be expected of the rural Gujarati (interdependent) participants, but not of the (autonomous-related) participants from Delhi.

The samples did not differ to a large extent on the components of parenting they mentioned when asked how emotional warmth should be expressed towards a baby. Most of the differences that are visible descriptively (cf. Figure 8 and Figure 9) are in the assumed direction, namely that Delhi mothers stress distal behaviors (face-to-face, verbal and object stimulation) more than rural Gujarati mothers. Primary care (e.g. breastfeeding the baby, bathing the baby) was mentioned fairly frequently by both groups, but particularly by the rural Gujarati mothers. This could be due to the high infant mortality rate in India, particularly in poor rural areas in which safeguarding the child’s survival would necessarily be a sign of the family’s emotional warmth towards the baby (also cf. LeVine, 1974). Another aspect could be the energetic and health-status of the rural mothers themselves (their life being characterized by drudgery with their daily chores, malnourishment, anemia; cf. Lakhani, Ganju, & Mahale, 1997; Keller, Abels et al., 2005) that might force them to choose the most basic care-giving behaviors towards their child, which is primary care. The emphasis that

rural Gujarati mothers lay on distress regulation and prevention (see Table 8) may well be related to those same care-giving preferences.

The two samples were not expected to differ in their emphasis on body warmth, body warmth being seen as an indicator of relatedness. The result on body warmth is somewhat counter to this expectation, because Delhi mothers talked about body warmth, whereas their rural Gujarati counterparts did not. This could be due to differences in the languages in which the Delhi (predominantly English) and rural Gujarati (predominantly Gujarati) interviews were conducted. It might also be due to a general tendency of the mothers from Delhi to talk about more abstract constructs, while Gujarati mothers talk more about directly visible behaviors. That is, while the Gujarati mother may say “she is holding the child”, the Delhi mother may add “lovingly” which would then be coded as body warmth. This interpretation is supported by the results from the deductive re-analysis of the other expressions of warmth. In this analysis the differences between rural Gujarati and Delhi participants run along the lines of more abstract versus more observable behaviors. While the Delhi participants talk more about “love” and feeling “happy” while doing something with the baby, the rural Gujarati mothers talk more frequently about laughing, smiling and they give examples of the way they (baby) talk to the baby. This difference in abstraction is probably related to the amount of experience with formal education that rural Gujarati and Delhi participants have (see Table 1). As pointed out earlier, formal education requires and fosters a large amount of abstraction and verbalization which is generalized to daily life (Rogoff et al., 2003; Greenfield et al., 2000).

The hypothesis that Delhi participants would stress distal modes of expressing warmth more than their rural counterparts was partially confirmed. The analysis of the aspects of warmth yielded seemingly contradictory results. In this analysis the rural Gujarati participants talk about facial and verbal warmth more frequently than their Delhi counterparts. This is related to some extent to the fact that proportionate measures were employed in the statistical

analysis. Abstract codes were very frequent in the Delhi sample so that the relative frequency of other codes became comparatively low (see Figure 10).

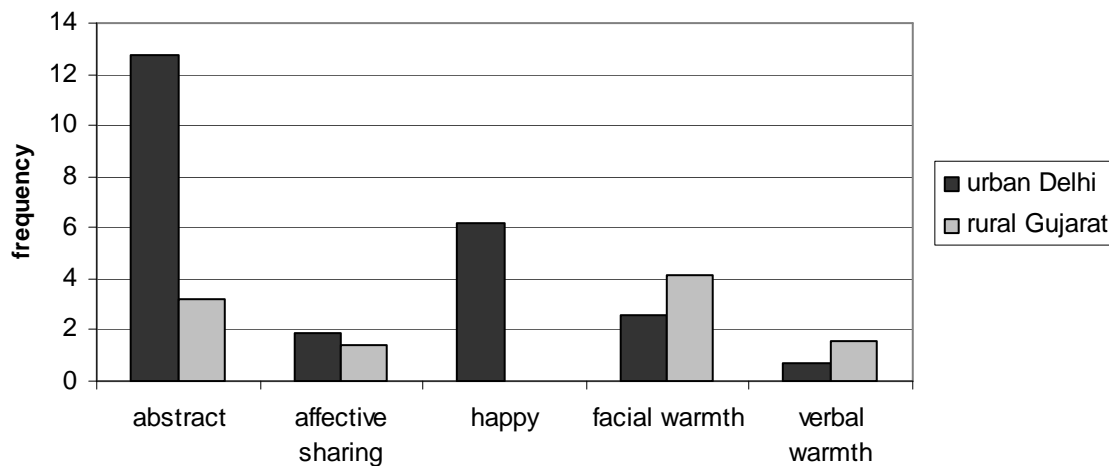


Figure 10: Frequency of Aspects of “Other Expressions of Warmth” Mentioned by Delhi and Rural Gujarati Participants

In accordance with the hypothesis, the urban mothers talk about distal ways of expressing warmth more frequently than rural mothers in the picture card interviews. In the questionnaire the Delhi participants also showed more agreement towards the facial warmth item than the rural Gujarati participants. While this may be due to the interaction effect visible in this item (see Figure 5) which will be discussed later, the result seems to be supported by the fact that the rural Gujarati mothers do not mention face-to-face behaviors at all when they are asked how emotional warmth can be expressed towards a baby (see Figure 8). Face-to-face behaviors, however, are a prerequisite for the occurrence of facial warmth.

The item that concerns baby talk is contrary to the expectations. Delhi participants agree less on this item than their rural Gujarati counterparts. From the emotional warmth interviews in which baby talk is fairly controversial, it becomes clear, why this is the case. Several Delhi mothers state that baby talk interferes with the children’s language

development. Maitri, the university-educated, 32 year old mother of a later-born son, puts it most drastically by saying:

hm- baby talk uh I seriously don't agree with the fact that one should do a lot of baby talk. It should be proper talking with the child and not baby talk, because uh that makes a lot of difference on how they speak later. If I'm doing baby talk with them, they'll also speak in that manner, which I feel is like not correct. Proper talking with, okay, lots of dears and sweethearts and sweeties is fine but then baby talk as per se using a language which is like n not decipherable by anybody is not really beneficial to anybody.

The relatively low agreement to this item by the Delhi mothers may be due to the wording rather than to the content. When baby talk is explained, some mothers soften their attitude towards it or try to reach a compromise between baby talk and “normal” talking. For instance Priya, a 29 year old computer engineer who is the mother of two children, wants to know:

Priya: Baby talk? Baby talk in a way or what kind of baby talk are you talking about?
Interviewer: like high pitch, short sentences, repeating what you are saying
Priya: uhm, yes, that also shows warmth.
Interviewer: Ok.
Priya: I mean uh baby talk in the sense that uh you are talking to the baby and then responding to whatever the baby is saying.
Interviewer: In a typical baby talk [...] you are calling in a high pitched...
[...]
Priya: I think not normally, that's not, I mean baby talk is not thaat very important. You can talk normally and then show [warmth].

In the Gujarati interviews/questionnaires the concept of baby talk was always explained without using the expression “baby talk” and examples were given. Therefore the wording of the question did not interfere with the participants' agreement to the item. An equally large emphasis on baby talk by urban and rural participants is suggested by the results of the differential analysis of the content of the “other expressions of warmth” statements in the picture card interviews. In this analysis there is no significant difference between rural and urban participants in terms of the verbal warmth. The hypothesis that Delhi participants put a larger emphasis on vocal and verbal warmth does no seem to be adequate. However, the interpretation that they find verbal and vocal warmth less important than their rural

counterparts does also not seem to be rectifiable. For participants from Delhi the item on baby talk was probably not suitable to assess their agreement to vocal warmth.

A behavior that seems to be important for the rural Gujarati mothers for expressing emotional warmth is playing. Although the concept of playing with babies seems to be linked with toys in several cultural communities (Abels, Chaudhary & Yovsi, 2005), the implications of playing and other behaviors that are associated with playing should be explored further. Playing indicates that the child receives the caregiver's full attention. As time is a valuable resource for rural Gujarati participants, this "waste of time" - as it is sometimes seen (T. S. Saraswathi, personal communication, 7 January, 2006) - that caregivers indulge in, may become a special display of affection.

Generation

Contrary to the hypothesis, the generations did not differ in their emphasis on different aspects of emotional warmth. It was assumed beforehand that the mothers would be more highly educated and therefore more agency-supporting than the grandmothers. The educational level of mothers in Delhi and in rural Gujarat is higher than the grandmothers' but the emphasis on distal modes of expressing emotional warmth are not in line with this. Possibly, the differences between the mothers' and grandmothers' educational levels (approximately 3 - 4 years) were not large enough to go along with differences in the emphasis on agency. This is an indicator that there has been less social change in both locales than was assumed in the hypotheses. In Delhi the participating mothers seem to come from families in which woman have been educated in the grandmother generation as well. It is possible that these women belong to social groups that have also traditionally been education-friendly and that have started perceiving education for women as crucial by the second half of last century. In rural Gujarat, though there are a few men attending college and the teenage

girls in the villages have become stylish and fairly urbanized during the last ten years, these changes do not seem to have as many effects on the young mothers. Families in rural Gujarat largely believe that education is needed mainly for income generating activities. These are still perceived to be predominantly the men's duty. Furthermore a bride is supposed to be obedient to her in-laws family and to ensure the family's honor it is better to marry off a girl at an early age (usually by the age of 16 or 18). For both aspects education is perceived as being rather detrimental. And finally because the brides, the mothers in this study, usually come from places other than the research villages, they may come from more remote villages with little access to education and less "modernization".

Sample * Generation Interaction

None of the interactions reached significance. There was a tendency towards an interaction in case of the questionnaire item which was used as an indicator for facial warmth, however. The grandmothers were expected to show lower levels of agreement to items concerning the distal expression of emotional warmth. This was true only for the rural grandmothers but not for the other groups of participants. It could be that the item was not as suitable for this group of participants, as the other results do not suggest differences in the preferred modalities between mothers and grandmothers. The item "If a baby smiles, a mother should re-smile immediately." was worded in a way that might have been problematic for rural grandmothers. The focus on "mother" may have been inappropriate for the grandmothers. As described earlier, the dyadic involvement of two family members is not always seen as desirable because it is perceived as potentially destabilizing the family. The focus on the mother may also not have been agreeable with the grandmothers as the item implies a great amount of attention, probably also time, being invested in the child. As women's workloads are very high, grandmothers may feel that there are more important tasks

for the mother than smiling at her baby. Additionally the item includes a direct reference to agency, by including a prompt reaction by the mother to a cue by the baby (contingency). This is seen as promoting a sense of agency by the Component Model of Parenting. It is therefore not clear whether or not it is really the modality of expression of emotional warmth that the rural grandmothers were reluctant to agree with.

Another possible cause for this interaction could be that the number of years of formal education cannot be considered as a linear variable as was assumed here. The rural Gujarati grandmothers had more often than not received no formal education at all, whereas all other groups had received at least some formal education. The experience of formal education itself, even if it is just very brief, may lead to a qualitative change in a person's approach to interactions. However, it is not clear, why this should be particularly important for face-to-face behaviors. It could be that the lower level of agreement by the rural Gujarati grandmothers does not only concern the face-to-face behavior mentioned in the item. The aspect of reacting promptly to the child's signal (contingency) is also mentioned in the item. This may imply that the child is already seen as an intentionally acting agent- a conception that is probably not shared by the rural Gujarati grandmothers and may have led to their lower level of agreement to this item.

Correspondence between Indian Mothers' Ethnotheories and Theoretical Psychological Conceptions on the Expression of Emotional Warmth

This section deals with the question whether Indian mothers' ethnotheories and theoretical psychological conceptions on the expression of emotional warmth, particularly according to the Component Model of Parenting, correspond.

Table 9: Contrasts between Relative Frequencies of Body Contact and Other Parenting Systems

Contrast		F(1, 23)	<i>p</i>	partial η^2
	primary care	6.38	.019	.22
Body	body stimulation	23.29	<.001	.50
contact	face-to-face	24.60	<.001	.52
versus	object stimulation	24.65	<.001	.52
	verbal stimulation	5.70	.026	.20

Body contact was mentioned most frequently by Indian mothers to describe how to express emotional warmth towards a baby ($F(5, 19) = 8.44$, $p < .001$; partial $\eta^2 = .69$). The other five parenting systems were mentioned significantly less frequently (cf. Table 9). Of the interactional mechanisms ($F(7, 17) = 5.80$, $p = .001$; partial $\eta^2 = .71$), warmth was mentioned most frequently. Body warmth was not mentioned more frequently than other interactional mechanisms (see Table 10).

The theoretically deduced behaviors that are assumed to express emotional warmth, seem to be reflected in the ethnotheories of Indian mothers from Delhi and rural Gujarat fairly well. In spite of the different languages in which the interviews were conducted, the English ones using the metaphoric “warmth” whereas the Gujarati ones did not, the samples are fairly consistent in their understanding of how emotional warmth should be expressed towards a

baby. With the exception of body warmth, the behaviors that were theoretically assumed to express warmth were mentioned most frequently by both rural Gujarati and Delhi mothers. Out of all the parenting systems body contact was mentioned most frequently while warmth was mentioned most frequently as interactional mechanism. The psychological concepts can therefore be applied to the studied samples.

Table 10: Contrasts between Relative Frequencies of Warmth and Body Warmth and Other Interactional Mechanisms

Contrast		F(1, 23)	<i>p</i>	partial η^2
warmth versus	body warmth	30.07	<.001	.57
	Distress regulation/prevention	31.94	<.001	.58
	child's negative signals	31.94	<.001	.58
	child's positive signals	26.63	<.001	.54
	Exclusive attention	33.44	<.001	.59
	divided attention	38.24	<.001	.62
	Contingency	38.57	<.001	.63
Body warmth versus	Distress regulation/prevention	0.46	.504	.02
	child's negative signals	0.33	.570	.01
	child's positive signals	0.30	.592	.01
	Exclusive attention	0.02	.900	<.01
	divided attention	2.64	.118	.10
	Contingency	3.68	.067	.14

The component model of parenting covers major parts of infants' experiences. However, the used methodology does not facilitate detecting concepts that are not part of the model. "Playing" which was mentioned frequently by the caregivers was included in the

analysis in an effort to overcome this problem by including a concept that seemed very pronounced in the interviews (cf. Discussion: Agency and the Modalities of Expressing Emotional Warmth).

The Evil Eye

A concept that is assumed to be a reason for caregivers' concern when emotional warmth is expressed towards a child is that of the evil eye. Concerns about inflictions by the evil eye may inhibit the expression of emotional warmth in the caregiver. The following narrative by a health worker in the Nandesari area (rural Gujarat) exemplifies the magnitude of this concern:

In one Panch mahal [district of Gujarat] village, one father-in-law was sitting and having a cigarette. A mother was feeding her child. She was feeding very fast and the mother's eye was not moving from the child's feeding. Then the father in law told the [baby's] mother: "what is that thing lying there?" There was a black stone nearby. The mother removed her eyesight from the child and said: "father, it is a black stone." Immediately after she had seen that, the black stone broke into several pieces and the child was saved. The father-in-law saved the child's life due to his observation- this is a fact.

Most of the participants were interviewed on the topic of the evil eye. The sample the participant was part of seemed to be the main factor, determining whether a caregiver believed in the evil eye or not. The rural Gujarati caregivers did not discuss the existence of the evil eye and thereby acknowledged it, whereas the majority of the mothers from Delhi expressed that they do not believe in the evil eye. Some of these, however, recognized traditions or their elders' concerns about the evil eye. Of the 12 urban participants 10 mothers said that they do not believe in the evil eye. Maitri claimed that she does "not really" believe in the evil eye. "I really don't know. Sometimes I feel [...] it's not nazaar [evil eye] it's the vibes, basically". Priya said that she takes precautions against afflictions with the evil eye adding "I can be a bit superstitious at times". Priya explained her thoughts on the evil eye in the following way:

Interviewer: Do you believe in evil eye?

Priya: mh, I've heard of them but uh yes, I've, see uh I can be a bit superstitious at times, that if I'm outside and I am feeding the baby with a bottle and it's full of (laughs) milk, then probably I will cover the bottle and then feed him.

Neither Priya, whose marriage was arranged and who lives in a joint family, nor Maitri, who had a love marriage and lives in a nuclear family, seem to be particularly exceptional in any of their socio-economic characteristics that would explain why they do not follow the common notion held by the other mothers from Delhi that there is no such thing as the evil eye.

Three mothers, among them Priya, said that there are “old beliefs”, “myths” or that the elders in the family believe in the evil eye. The instances mentioned to explain these beliefs, potentially arouse jealousy by praising the child or by making the child look good. Five of the mothers who said that they do not believe in the evil eye, do raise issues about not handing the baby over to strangers because they could be unhygienic or treat the child carelessly. In the interview with Saroj the aspect of hygiene and tradition are touched upon:

Interviewer: can the expression of warmth be harmful in any situation? [...] Something like [the] evil eye, or something.

Saroj: see, I don't believe in all these things, but yes uh our ancestors and all they do say that: 'don't give your child to everyone', or...

Interviewer: hm hm hm

Saroj: but I don't believe, as far as the person is known to me. I will not give my child to any stranger that is for sure, because in my presence only the person, the person who is hygienically clean to hold my child. If he is doing it in front of me and then it's fine. I mean I don't believe in [these] things.

Of the 13 interviews with rural mothers, 9 contained the topic of the evil eye. Of the 6 interviews with grandmothers, 5 contained this. In the interviews with the rural participants the question whether or not they believe in the evil eye was not the major topic of discussion. In these interviews the causes of an affliction with the evil eye were, above all, the topics. The majority of the rural interview partners had ideas concerning the causes of affliction with the evil eye. The factors mentioned were mainly personal or related to behaviors of caregivers or other persons coming in contact with the baby (see Figure 11).

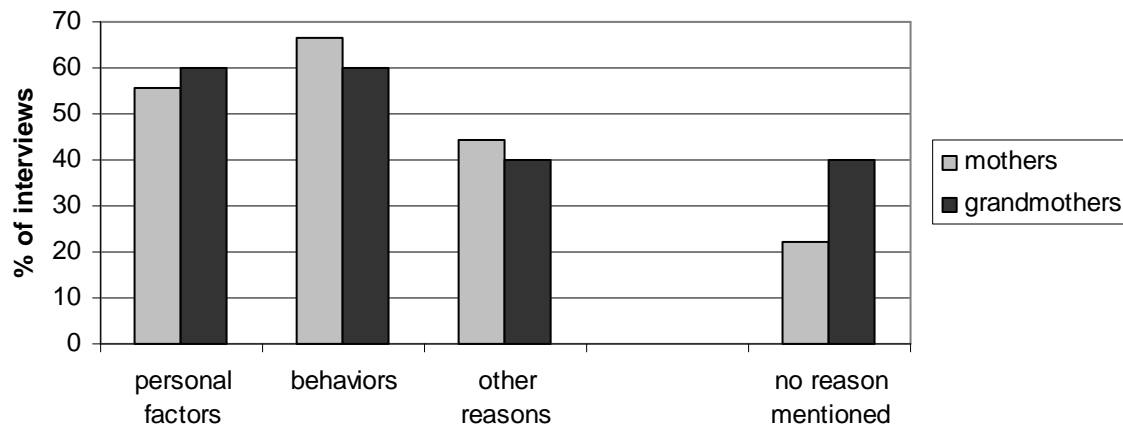


Figure 11: Causes for an Affliction with the Evil Eye: Percentage of Interviews with Rural Participants Containing the Topic of the Evil Eye; Multiple Reasons could be Given

Reasons for an Affliction with the Evil Eye

Rural mothers saw the behaviors of caregivers or other persons as the most common reasons for a baby's affliction with the evil eye. Among these dangerous behaviors were: praising the child or looking at the child too intensively or for too long a period of time. The interviews did not emphasize that the mothers' behavior is more dangerous than that of others.

Examples that mention the mother's behaviors are from the interview with Sudha, the 21-year-old mother of a second-born boy. She claimed that "if she looks at him then evil eyes fall." Shaku, a 26 year old mother of five children who has never attended school, felt apprehensive about the mother's praise:

- Interviewer: Have you spoken any words to praise her, like: "she is a very good girl" [...] ? Should this be done?
- Shaku: No, this should not be done, because if one speaks a lot that my child is good, then he might get an evil eye.

However, from her point of view, this becomes particularly problematic in the presence of others who will appreciate the child. Leela, a 21 year old mother of a first-born

boy, who has received 4 years of formal education also feels that when other people compare their own children to her child that the danger of the evil eye arises.

Similar to Priya, who had doubts about bottle-feeding the child in public, many rural participants felt that the combination of looking at the baby while feeding was particularly dangerous. The urgency, with which this threat is perceived, is also evident in the narrative of the health worker, cited at the beginning of this section. She had been present during the interview with the mother and illustrated the danger of the mothers' gaze while feeding. Feeding was not a major topic in the interviews about emotional warmth, but the picture card interview contained one picture of a mother looking at her child while breastfeeding (see Figure 12).



Figure 12: Rural Gujarati Mother Looking at her Child while Breastfeeding

This was spontaneously mentioned as a cause of an affliction with the evil eye by four mothers and one grandmother. Another mother stated that looking at the child while

breastfeeding was hazardous in the context of the warmth interview. The danger of looking at the child while feeding did not seem to depend on the presence or absence of spectators.

There are also personal factors that were mentioned as leading to the child's affliction with the evil eye. Personal factors were mentioned by as many grandmothers as the behaviors. Especially persons who do not have children of their own and outsiders were seen as a potential danger. Padma, a 40 -year-old grandmother of a first-born male, explained "if there are some people who do not have their own child, then evil eyes fall on him [the child]." And Ratana, the grandmother of a baby boy who has attended school for five years, added "Evil eye comes on him when all from outside play with him." However some factors that make persons dangerous were described in a more fuzzy way by the participants. Meena, who has completed seven years of schooling and is an 18-year-old mother of a first born son, explained that like the five fingers of a hand which are not the same, so are people also not the same and some might afflict the child with the evil eye, whereas others will not. Shaku simply stated "someone may have an evil eye" and Kokila, a 45-year-old Gujarati grandmother with no formal education, claimed: "If some person is like that then only it affects [the child], otherwise it is not possible."

There were some mothers who mentioned other reasons for the affliction with the evil eye. Two participants' expressions could be labeled as calling it fate. According to grandmother Kokila "If it [evil eye] is supposed to fall, then it falls." And two participants claimed that the affliction of the evil eye is related to a person's thoughts.

The participants were also asked whether they thought that the expression of too much emotional warmth could lead to an affliction with the evil eye. This question was generally negated. This can be seen, for instance, in the interview with grandmother Padma

Interviewer: If you love your child too much, does evil eye effect the child?

Padma: No, nothing happens.

Only two participants felt that the expression of very much emotional warmth might lead to an affliction with the evil eye. Meena is one of the two mothers who expressed this opinion:

Interviewer: If we show more love to our child, then does the evil eye fall on him?

Meena: If we love more then our evil eyes fall on him.

Effects of the evil eye were rarely described. Those participants who did speak about them, mention crying (3 participants) and diseases (2 participants).

Summary and Discussion: the Evil Eye

The participants' sample seemed to determine, whether a caregiver believes in the evil eye or not. This result points at an emancipation of the urban middle-class mothers from old beliefs. Some of them seem to be concerned about respecting their elders' beliefs or traditions and, being highly educated, adapt the traditional beliefs to more scientifically proven, "modern" ones. They remark on hygienic concerns or attribute mishaps to "vibes". This finding is in contrast with Spiro's (2005) results. She had found that migrants from Gujarat living in Britain retained the belief in the evil eye. It might be the special situation of the migrants that makes them more resilient to change. However, it cannot be completely ruled out that the belief in the evil eye is more predominant in some (e.g. in Gujarat) than in other regions of India. The metropolis of Delhi may also be special and less traditional than many other parts of the country.

In the interviews with rural Gujarati caregivers, the existence of the evil eye was not seriously questioned. Some of the reasons for the affliction with the evil eye that are mentioned in the literature could also be traced in the data used in this study. The expression of too much emotional warmth was rarely viewed as a reason for an affliction with the evil eye. Looking at the child with love (Trawick, 1990) was found in a variation in this sample. It

was seen as dangerous particularly if it happened during feeding. The data concerning behaviors that may lead to an affliction with the evil eye also confirm Trawick's description that the mother herself is perceived as endangering the child. Praise was also seen as a possible cause of affliction with the evil eye. Besides these well-defined behaviors, personal factors, such as childlessness were also mentioned as potentially dangerous. Both, the personal factors and praise, are probably related to the main cause of evil eye that Spiro (2005) mentions, namely envy. Childlessness is not usually a choice but a burden in this context. A daughter-in-law's status in the family increases with the birth of (male) offspring and the couple is usually teased and questioned in case there is no pregnancy after 1 to 2 years of cohabitation. Praise or comparing children can have the effect of singling out the child which may make others jealous and may therefore be feared and avoided. The personal factors were sometimes not (made) very clear. Some participants stated the fatalistic view that the evil eye just happens. This willingness to accept fate is possibly related to the notion of *karma* that implies that behaviors and events from the previous life can afflict this life and there is little scope for alteration except for the following life.

The rural participants also saw little scope for protecting the child from persons who may afflict the child with the evil eye. When asked whether there were particular persons who should not interact with the child, Shaku claims that she cannot stop someone who wants to express love towards the child but has to accept it, even if she is not comfortable with it.

The Roles of the Family Members

This section is concerned with the roles that family members have for expressing warmth towards the child. A part of this section is an attempt to estimate the amount of contact and importance which is assigned to different family members. Moreover the mothers' and grandmothers' perception of the different family structures will be explored in this context.

The frequency with which the different (groups of) persons were mentioned and the age at which the child is expected to recognize the family members were used as measures of the perceived importance of the particular caregiver for the child. The analyses on these measures revealed differences between the samples (analysis T: recognition of family members: $F(1, 51) = 13.02, p = .001$; partial $\eta^2 = .20$; analysis U.1: frequency with which family members were mentioned: $F(1, 22) = 4.98, p = .036$; partial $\eta^2 = .18$). The rural Gujarati participants talked less about persons and they believed that the child recognizes family members later than what the participants from Delhi believed.

As these differences are not assumed to reflect differences in importance of the family members between the samples, the differences within the samples will be the focus of these results. The participants' generation (mother vs. grandmother) did not seem to play a significant role for either of the measures (analysis T: recognition of family members: $F(1, 51) = 2.02, p = .161$; partial $\eta^2 = .04$; analysis U.2: frequency with which family members were mentioned: $F(1, 17) = 2.08, p = .167$; partial $\eta^2 = .11$). When comparing how early the different family members were expected to be recognized by an infant there was also no significant sample * generation interaction ($F(1, 51) = 0.24, p = .629$; partial $\eta^2 < .01$). In the next sections the roles of the different (groups of) family members will be described and discussed in relation to more overarching topics, particularly the family structure.

The Mother's Role

Contrasts between mother and other family members pointed towards the exceptional role that the mother is perceived to play for the child. This was perceived both by urban and rural mothers (analysis T.1: $F(7, 16) = 11.36$, $p < .001$; partial $\eta^2 = .83$; interaction: $F(7, 16) = 1.80$, $p = .157$; partial $\eta^2 = .44$) and by rural mothers and grandmothers (analysis T.2: $F(7, 11) = 11.34$, $p < .001$; partial $\eta^2 = .88$; interaction: $F(7, 11) = 1.54$, $p = .251$; partial $\eta^2 = .50$) for the frequencies with which different persons were mentioned. This result is strengthened by the fact that rural and urban mothers and grandmother also felt that the age at which family members were recognized was lowest for mothers (analysis S: $F(4, 204) = 13.73$, $p < .001$; partial $\eta^2 = .21$; see Figure 13).

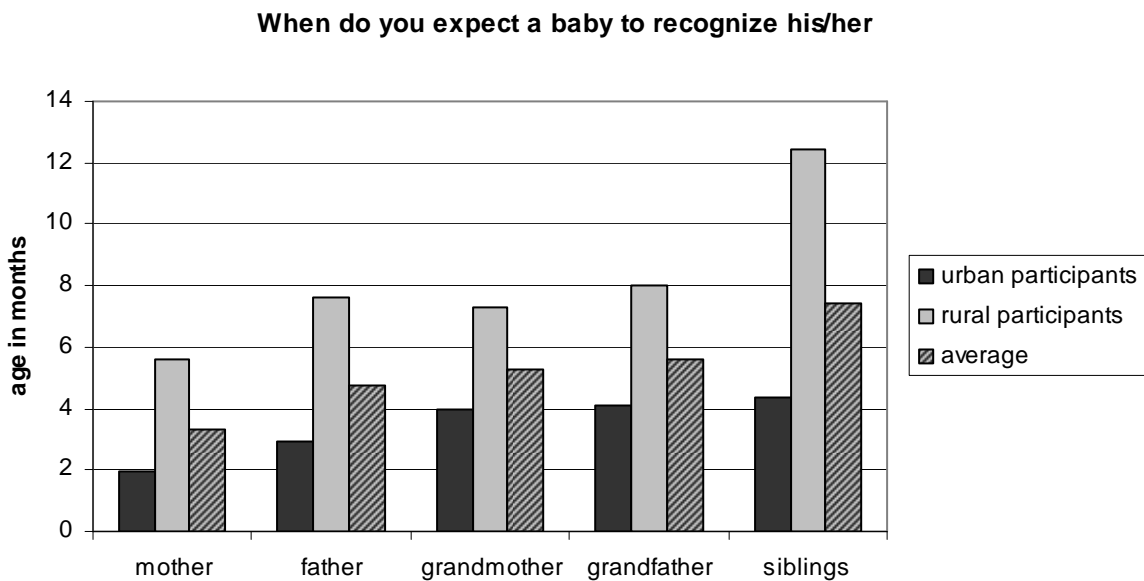


Figure 13: Expected Age at which a Baby Starts Recognizing Family Members

The warmth interviews yielded more than 100 statements referring to the mother's role in the expression of emotional warmth towards the baby. The mother was seen as a unique caregiver for the child. Malika, for instance, the 25-year-old, employed mother of a

first-born boy from Delhi, who lives in a joint family, said that every family member should show their love to the child “but the mother [will] always be uh better and a little bit extra”. The rural Gujarati mothers also agreed that the mother is special for the child. However, more than 60% of their comments referred to the uniqueness of the mother’s primary care activities, such as breastfeeding or bathing. An excerpt from the interview with Leela, a 21year-old mother of a first-born boy, who has received four years of formal education and lives in a joint family illustrates this:

Interviewer: How do you show these feelings?

Leela: We would breastfeed, give him milk, and water; then we bathe him and dry him, sprinkle powder on him and apply kohl.

Interviewer: Who should do this? Who can do that?

Leela: Only mothers can do that.

This type of comment was almost as frequent for the rural Gujarati grandmothers as for the rural Gujarati mothers, but was mentioned only once by a mother from Delhi. Some of the participants saw the foundation of the special role that the mother has for the baby in the amount of time she spends with the child, some, particularly rural participants, stated that there is a bond because of the bodily connection through the blood or the pregnancy.

All three groups of participants felt that mothers can express their warmth well by co-sleeping with the baby and that co-sleeping is part of what determines the mother’s special role. However, one mother from Delhi also expressed her ambiguity about co-sleeping with the baby. Savitri, the 37-year-old mother of a later-born girl, living in a nuclear family put it this way: “[The baby] sleeps maximum if he sleeps next to her. It’s bad for the baby, it’s bad for the mother also, because the baby is uh totally, you know gets into the habit of sleeping next to the mother.” From the Delhi mothers’ point of view, the focus when talking about co-sleeping was often on the child’s sleep, whereas the rural participants, both mothers and grandmothers often focused on the child’s hunger during the night.

Both rural Gujarati and Delhi mothers mentioned the children’s reaction to the mother as being different from the reaction towards other people. They claimed that the children

recognize the mothers earlier than other persons or look at the mother for reassurance. Sita, a 29-year-old woman described her first-born daughter's behaviors:

she tries to look at me or tries to find me. So that's her way of showing that: 'I know you're there for me' or 'I know that you're always, you're doing things for me' or 'you're my mother'. So that is why [...] the first person that the child recognizes is the mother, only.

Shaku, who lives in rural Gujarat, expressed it this way: "The way she calls the child, the child will also recognize that this is my mother, the way she feeds the child. [...] The mother always feeds her child that is why he knows his mother." As described earlier, this tendency to view the children's reactions towards their mothers as being different from their reactions to other family members was also reflected in the questionnaire data (see Figure 13; analysis S)⁵.

The expression of emotional warmth was also described as something that is very important for the mother, especially by mothers from Delhi. This was expressed by Geeta, a 24-year-old mother of a later-born son, who experienced 12 years of formal education. When asked about the importance of hugging the baby she said: "maybe it's important for the baby uh it is important for the baby or not, I don't understand. It is important for the mother because she feels warmth." Shaku, from rural Gujarat, expressed a similar sentiment "When I feel more love, then I hug her." Another reaction two mothers from Delhi talked about was that they feel good when their child is praised by somebody else. Asha, a 28-year-old mother, who lives with her mother-in-law, her husband and her first-born son, explains: "If you're the mother, you would like if somebody else is praising your baby." Rural mothers confronted with the same situation, may rather fear an affliction with the evil eye (cf. section: Reasons for an Affliction with the Evil Eye).

⁵ There was also a sample effect as described earlier that is not interpreted in this context. The urban mothers believed that infants start recognizing their mother at approximately 1.6 months (SD = 1.6) and urban grandmothers stated that the babies are able to recognize their mothers at 2.5 months (SD = 1.9), whereas rural mothers and grandmothers believed that this happens much later at 4.8 (SD = 3.8) and 7.3 (SD = 10.1) months, respectively. While the difference between rural Gujarati and Delhi participants reached statistical significance ($F(1, 51) = 13.02, p = .001; \eta^2 = .20$), the difference between mothers' and grandmothers' beliefs did not ($F(1, 51) = 2.02, p = .16; \eta^2 = .04$).

Only one urban mother mentions that caring for the child is something of a duty, while several mothers of both samples, but particularly those from Delhi, think that the mother's love for the child is universal and/or comes naturally. Malika for instance states "Actually it is inbuilt (...) that she [the mother] shows that [her warmth] to the baby" and Savitri feels "Every mother loves her child." Ramila, the rural Gujarati mother of a later-born daughter, confirms: "Feelings, of course. Mother surely has feelings for her child." This love, from some of the participants' point of view, is still observable even if the mother is handling the child in a way that the participant does not approve of. One grandmother also stated the conviction that the mother's love can be taken for granted.

Parenting Systems

There was a tendencial difference between rural and urban participants in the analysis of the parenting systems that were mentioned when the mother was mentioned (analysis V.1.mother: $F(5, 17) = 2.78, p = .052$; partial $\eta^2 = .45$). This tendency, combined with the medium effect size, is the rationale for a description and cautious interpretation of the results later-on. The frequency with which the mother was mentioned was controlled and reached significance ($F(5, 17) = 11.23, p < .001$; partial $\eta^2 = .77$). The rural Gujarati mothers commented most frequently on primary care when they were talking about mothers, whereas the urban mothers commented less on primary care (cf. Figure 14). The parenting system they mentioned most frequently was body contact. However, while the Delhi mothers mentioned body stimulation, face-to-face behaviors and vocal stimulations more often than the rural Gujarati mothers (see Figure 14), the two groups did not seem to differ much in these or the two remaining parenting systems (body contact and object stimulation, which was not mentioned at all) when the overall frequency with which the mother was mentioned was controlled. Therefore it seems that it was mainly the difference in the frequency with which

primary care was mentioned that was responsible for the overall difference between rural Gujarati and urban mothers from Delhi (cf. Appendix J, Table J-1).

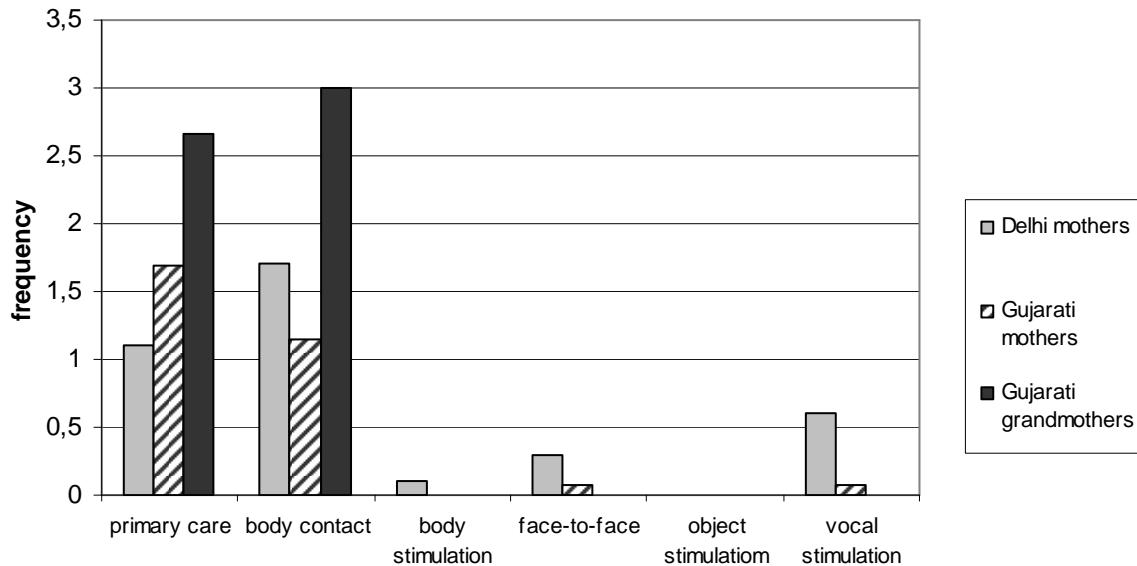


Figure 14: Average Frequencies of Parenting Systems Mentioned in Statements about Mothers

In the analysis on the differences between rural mothers and grandmothers, there were no statistically significant differences ($F(4, 13) = 0.97, p = .455$; partial $\eta^2 = .23$). The controlling variable frequency with which the mother was mentioned reached significance ($F(4, 13) = 23.02, p < .001$; partial $\eta^2 = .88$). The most striking result of this analysis was that the rural Gujarati grandmothers only talk about two parenting systems, when talking about the mother, namely primary care and body contact (see Figure 14). Body contact and primary care were mentioned more frequently by them than by the mothers. Only one difference showed a statistical tendency ($p < .1$; see Appendix J: Table J-2), namely vocal stimulation was not mentioned by them and it was also only rarely mentioned by the mothers. This difference reached the highest effect size (partial $\eta^2 = .19$).

Interactional Mechanisms

The difference between the rural and the urban mothers did not reach significance but showed an effect size of $\eta^2 = .36$ ($F(5, 17) = 1.89, p = .150$; partial $\eta^2 = .36$); the controlling variable frequency with which the mother was mentioned reached significance ($F(5, 17) = 31.86, p < .001$; partial $\eta^2 = .90$). Rural mothers and grandmothers also did not differ significantly in terms of the interactional mechanisms they mentioned ($F(5, 12) = 1.12, p = .401$; partial $\eta^2 = .32$); but the controlling variable frequency with which the mother was mentioned reached significance ($F(5, 12) = 18.77, p < .001$; partial $\eta^2 = .89$).

The most frequent interactional mechanism mentioned when talking about the mother in the warmth interview was warmth (62%). Members of all three groups of participants (see Figure 15) mentioned warmth most frequently. Warmth was mentioned less by the rural Gujarati mothers than the rural Gujarati grandmothers or the Delhi mothers, but the differences were neither statistically significant, nor did they reach high effect sizes. The other interactional mechanisms except the child's negative signals, (i.e. shared and exclusive attention, child's positive signals- for the statistics see Appendix J: Table J-3) were all mentioned more frequently by the rural Gujarati than the Delhi mothers, if the frequency that the mother was mentioned at all was controlled.

The rural Gujarati grandmothers mentioned only two systems besides warmth, namely divided attention and negative signals of the child. While rural Gujarati mothers and grandmothers did not differ to a large extent as far as negative signals were concerned, the grandmothers talked about divided attention twice as frequently as the mothers, though this difference was not significant (cf. Appendix J: Table J-4). Statements on exclusive attention ($p = .07$; partial $\eta^2 = .19$) and children's positive signals ($p = .03$; partial $\eta^2 = .26$) were absent in the grandmothers' interviews.

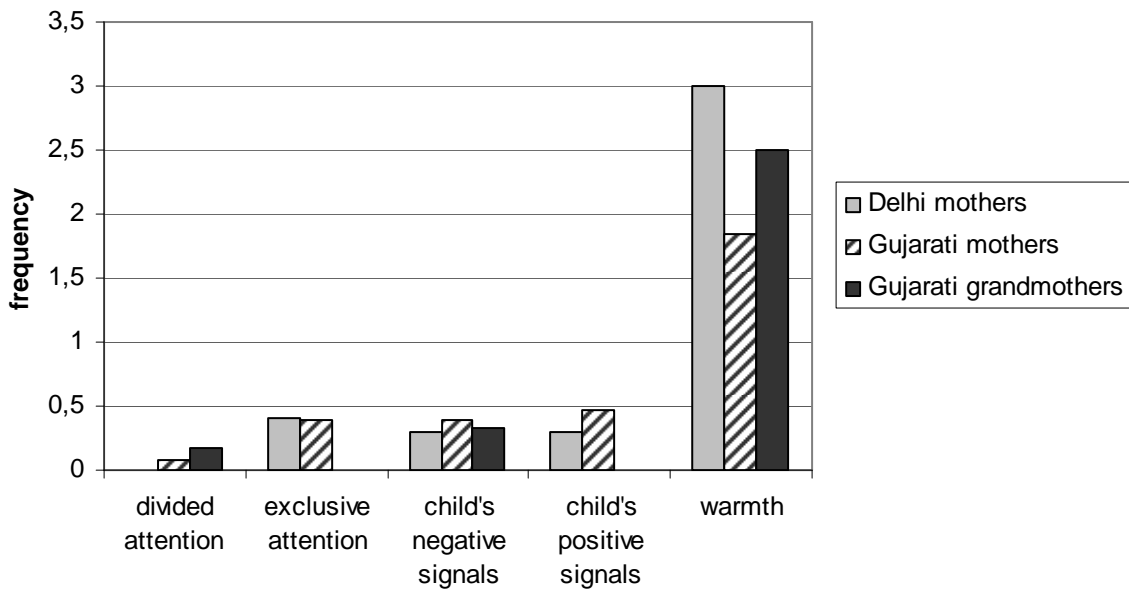


Figure 15: Average Frequencies of Interactional Mechanisms Mentioned in Statements about Mothers

Family Structure and the Role of the Mother

There was a distinct notion that the mother's role in a joint family differs from that in a nuclear family. The participants generally agree that in a joint family chores are distributed more evenly between family members and that some of the child-rearing responsibilities are therefore taken away from the mother. Priya's opinion was that "[i]n a joint family responsibilities tend to be divided. [...] In a nuclear family the mother probably is a bit uh she's a bit busier". This has effects on the interaction of the mother with the baby but also on the experiences the child gains in the family. Priya continued by saying that mothers in nuclear families can show less body warmth but would instead show more facial and verbal warmth to their babies.

The evaluation of the family structures and their effects differed between different mothers. While most mothers liked joint families better than nuclear families and they expressed that the latter are beneficial for the child, Maitri opposed this by saying that the

mother in a joint family has to tend to many household chores and is therefore not the one who is the primary caretaker of the child.

[I]n our Indian society the bahu [daughter-in-law] of the family has to take care of all the chores in the house. [...] Things have to be done on time. And they have to be done not just for three people but for a number of other people. So I think the responsibility of bringing up the child more comes to the grandparents than to the mother herself.

Kailash, a 33-year-old, unschooled mother of six children from rural Gujarat, who lives in a nuclear family, also thought that it is advantageous to live in a nuclear family because one has to take care only of one's immediate family. Shaku, who also lives in a nuclear family, feared that she could get neglected by her husband in a joint family.

Summary- mother's role

It can be summarized that the rural Gujarati mothers emphasized primary care to a larger extent than their counterparts from Delhi did. The rural Gujarati mothers seemed to assume that the mother's unique role for the baby is based on the mothers' primary care activities for the child, such as bathing and feeding. They expected the child to recognize the mother earlier than the other family members. Besides primary care and body contact, the mother's role also includes- though to a lesser extent- face-to-face interaction, showing exclusive attention towards the child and noticing and reacting to the child's positive and negative signals.

Although the Delhi mothers did not deny primary caretaking tasks of the mothers, their emphasis was more on body contact. Mothers from Delhi also mentioned exclusive attention and the child's positive and negative signals, however, they did this to a lesser extent than their rural Gujarati counterparts. The Delhi mothers talked more than the rural Gujarati mothers about their perspective and feelings that lead to, or accompany the expression of emotional warmth towards the child. They also expected their babies to recognize them earlier than other family members.

The rural Gujarati grandmothers generally expected the recognition of family members to happen fairly late. In their opinion babies do not start recognizing family members, not even their mothers, before the second half of their first year. The grandmothers' concepts about mothers' activities towards babies seem less differentiated than that of the mothers'. The rural grandmothers mention only primary care and body contact as parenting systems, and warmth, negative child signals and divided attention as interactional mechanisms, respectively. However, this may also be due to the small number of participating grandmothers rather than to a limited view of the mothers' role towards the baby.

The majority of the participants preferred the joint family as their living arrangement. They also viewed the members of joint families as taking over some of the mothers' child rearing responsibilities. While some mothers found that advantageous, not all mothers approved of their (potential) role as daughter-in-law in a joint family.

The Father

The father was mentioned in approximately half of the interviews with specific features that differentiate him from other (potential) caregivers. On average, he was mentioned thus only once in each interview, whereas the mother was mentioned four times (see Figure 16).

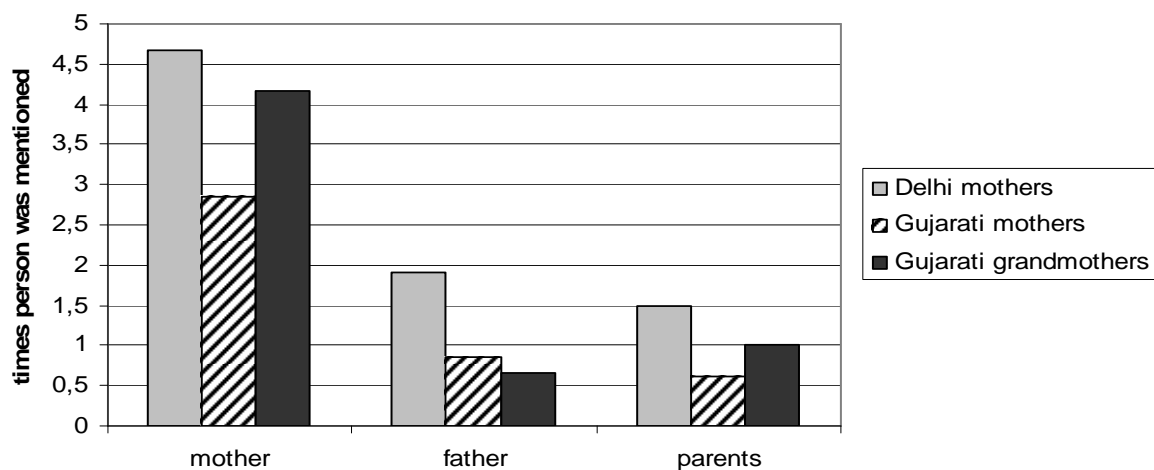


Figure 16: Frequency with which Parents Were Mentioned in the Interviews by the Participants of the Three Groups

The participants believed that the father is recognized by the child significantly later than the mother ($F(1, 51) = 15.131, p < .001; \eta^2 = .23$; see Figure 13; analysis T) which might indicate that the father was seen as less important for the child than the mother or as interacting less frequently with the child. However, four of the mothers from Delhi and one rural Gujarati grandmother stated that their own three month old child recognizes the father and/or reacts differently to the father than to the mother or to other caregivers. Gayatri, the 28-year-old mother of a first-born boy from Delhi, described for example that

whenever he [the father] comes, and the moment he calls [the] baby, then he [the baby] gives a smile. Means he started recognizing the [...] father and then it's because, you know, the kind of warmth he shows toward the baby.

This excerpt also demonstrates that the participants see the interactional experiences of father and child as crucial for the development of the recognition of the father. In 43% of the cases in which the father was mentioned, his (potential) activities towards the child or the lack of these (e. g. the inability to breastfeed the child) were alluded to. Saroj, the 31- year-old mother of a later-born girl, who has a university degree and lives in Delhi, said:

at times father [...] could help in, you know, dressing up the child, feeding him at times, feed the bottle, I mean the top feed and talking to the child or, you know, just taking him on his shoulder and trying to make him sleep, napping him.

Two Delhi mothers pointed out that the father has a very important role for the baby and there were concerns about the father's absence that interferes with the fulfillment of this, his important role. The fathers were said to be "half the time out" (Geeta) or "hardly in; like during the day he's not there" (Gayatri) and reflecting on her own childhood, grandmother Kokila said "In our family [...] father used to stay out". Shaku from rural Gujarat put it most drastically by saying "his father does not take care of him. He only gives money."

In the analyses of the fathers' activities, the frequency that fathers' activities were mentioned was controlled, because of the difference in frequency the father was mentioned which is visible in Figure 16 and because some participants did not mention the father at all.

Parenting Systems

The mothers from rural Gujarat and Delhi did not differ significantly in the parenting systems that were mentioned as fathers' activities (analysis V.1.father) but shows an effect size of $\eta^2 = .33$ ($F(4, 18) = 2.18, p = .11$; partial $\eta^2 = .33$); the controlling variable frequency of fathers' activities reached significance ($F(4, 18) = 6.56, p = .002$; partial $\eta^2 = .59$). Rural mothers and grandmothers also did not differ significantly in terms of the parenting systems they mention for fathers ($F(3, 14) = 1.24, p = .33$; partial $\eta^2 = .21$; the controlling variable frequency of fathers' activities reached significance ($F(3, 14) = 3.82, p = .034$; partial $\eta^2 =$

.45). That is: only the controlling variable reached significance whereas the difference between rural and urban mothers and the difference between rural mothers and grandmothers did not. The effect sizes are small to medium and therefore the differences will be discussed, again.

A similarity between the three groups is that none of the participants talked about face-to-face behaviors or object stimulation when talking about fathers' behaviors towards babies. In comparison with the rural Gujarati mothers, Delhi mothers talked more about primary care (which was absent in the rural Gujarati mothers' statements), body contact and vocal stimulation, while the rural Gujarati mothers talked more about body stimulation when referring to the father (see Figure 17), though the effect sizes were small for all of these differences (see Appendix J: Table J-5). For the rural Gujarati mothers vocal/verbal stimulation was the fathers' behavior mentioned most frequently even though it was mentioned less frequently by them than by the Delhi mothers.

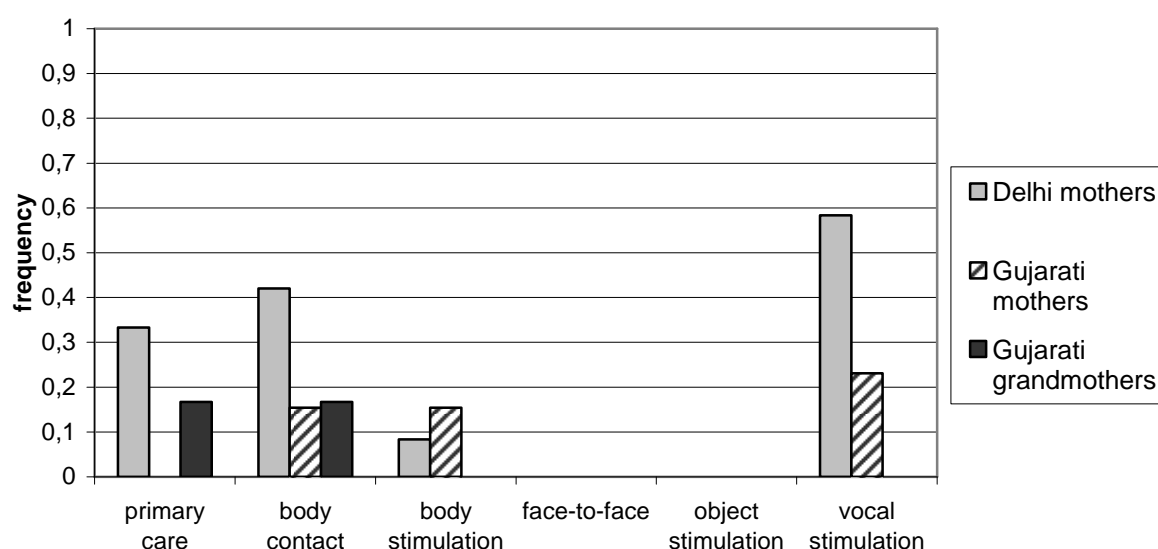


Figure 17: Average Frequencies of Statements on Parenting Systems Mentioned in Statements about Fathers' Activities

Rural Gujarati grandmothers only mentioned two parenting systems when talking about fathers' activities which correspond to the two systems they mentioned when talking about the mothers. While rural Gujarati grandmothers mentioned primary care which was absent in the rural mothers' statements on fathers' activities, rural mothers and grandmothers both mentioned body contact with a similar frequency (see Figure 17).

Interactional Mechanisms

Overall interactional mechanisms were mentioned very rarely by the participants when talking about fathers. Exclusive and shared attention and negative signals were not mentioned at all. The ANOVAs on the two remaining interactional mechanisms (child's positive signals and distal warmth) yielded neither significant differences nor particularly high effect sizes between rural and urban mothers (W.1.father: $F(2, 20) = 0.58, p = .57$; partial $\eta^2 = .06$) or rural mothers and grandmothers (W.2.father: $F(1, 16) = 0.20, p = .66$; partial $\eta^2 = .01$) and are therefore not discussed here. In line with the results on parenting systems, the controlling variable frequency of fathers' activities reached significance in both analyses (W.1.father: $F(2, 20) = 6.49, p = .007$; partial $\eta^2 = .39$ and W.2.father $F(1, 16) = 28.48, p < .001$; partial $\eta^2 = .64$).

Family Structure and the Parents

The father was seldom mentioned alone in the context of discussing the family structure. However, many comments on the parents⁶ were concerned with it. The participants saw the parents (in a few cases also explicitly the father) as having more responsibilities towards the children in nuclear families. For instance rural Gujarati grandmother Kokila

⁶ In Gujarati and Hindi "mother-father" is usually used because the term for parents is not in common usage in these languages.

stated: “It’s the joint responsibility of father and mother. In that case the father’s responsibility is more if they stay alone.”

Some participants, especially mothers from Delhi, viewed the parents as a unit that is special for the child. An example of this would be that the child should not be touched by persons other than the parents or the child should only sleep with the parents and if they are not there with the grandparents. Sita from Delhi additionally claimed that some of the parents’ actions towards the child are interchangeable or equally good for the child “I think uh, caressing can be done while she’s sleeping or you can always do it to make her sleep. And everyone, if I’ll do it or my husband do it, it’s one and the same thing only”.

Summary- father’s role

Mothers from Delhi mentioned diverse activities the father can engage in with the child and pointed out the importance of the father and they were concerned about the fathers’ absence. They also mentioned primary care activities as possible behaviors of the father. However, vocal stimulation and body contact were mentioned more often than primary care activities and particularly the former seemed to be a core-behavior for fathers. This multitude of the fathers’ activities that the Delhi mothers mentioned is in line with the concept of some of them that basically mother and father are a unit or interchangeable in their interaction with the child. Judging by the frequency with which the father was mentioned and the age at which the child was expected to recognize him, the father is more important to the Delhi mothers than to the rural Gujarati mothers and grandmothers.

The rural Gujarati mothers did not see the father as someone who gets involved in primary care at all. They also did not explicitly point out the importance of the father’s role in the interaction with the child, but pointed out his role as bread-winner. The fathers’ behavior that they described most frequently, though less frequently than the Delhi mothers, is also

vocal stimulation. The two other behaviors they mentioned was body contact and body stimulation, the latter even more frequently than the Delhi mothers.

The rural Gujarati grandmothers mentioned two behaviors that fathers are involved in, namely body contact and –in contrast with the rural Gujarati mothers- primary care. However, a closer look at the coded statements revealed that this refers to the father's inability to breastfeed and therefore it only seems contradictory to the rural Gujarati mothers' comments at first sight. The rural Gujarati grandmothers mentioned fathers less frequently than the rural Gujarati and Delhi mothers and a clear picture of their view on fathers did not emerge.

Siblings, Cousins and Other Children

Siblings, cousins or other children were mentioned by all three groups but most frequently by the Delhi mothers. The Delhi mothers brought up a variety of topics concerning siblings. On the one hand there was the notion that there may be sibling rivalry and aggression of the older children towards the baby. Savitri explained: “siblings are too aggressive to caress the baby”. On the other hand, however, siblings are described as devoted and helpful towards their younger siblings. Antara, a 32-year-old mother of a first born son living in a nuclear family, elaborated on the effects of siblings: “Children love children a lot I think and they teach the child a lot. [...]If you keep them together they are very different children. I have noticed that.” Several Delhi mothers describe that the children are eager to hold the baby and be with the baby. Maitri gives an example of her older daughter’s behavior towards the baby:

whenever she [the baby’s older sister] comes back she’ll go run to the cot when she comes back from school to check if he’s there or not there. She’ll give him a lot of cuddle, she’ll keep telling him ‘I love you, bhaiya [brother]’.

However, Geeta also remarks that the siblings may not spend much time with the baby because “they are busy with their work, like go to school, come back, go to tuitions or something like that. They are also busy with their schedule.”

The rural Gujarati mothers who talk about siblings describe their behaviors. The siblings could sleep together, talk to the baby and play with the baby. One mother also says that her baby recognizes his brother and sister because they always call him. Sibling rivalry or aggression is not explicitly mentioned. Only one rural Gujarati grandmother talks about siblings. She says that in her household the children play together and they call the baby. They are not able to hold the baby, however.

In summary siblings and other children are not mentioned very frequently. The Delhi mothers’ reactions to siblings range from welcoming the older child as loving playmate and

teacher for the baby to fearing sibling rivalry and aggression. The rural Gujarati participants also mention siblings as playmates but do not comment on fears concerning the contact between siblings. None of the groups seem to put a great emphasis on siblings providing care for their baby brothers and sisters.

The Grandmother

The grandmother was mentioned altogether 30 times in the interviews which is almost as frequently as the fathers. The grandmother ranged third in being recognized by the children, namely at the age of 5.3 months on average. The difference between the expected age at which the father is recognized does not differ significantly from that of the grandmother ($F(1, 51) = 1.42, p = .24$; partial $\eta^2 = .03$; analysis T). However, the order in which grandmother and father are assumed to be recognized by the child was inverted in the rural Gujarati and Delhi samples. While the Delhi participants expected the father to be recognized by the child at an earlier age than the grandmother, the rural participants expected the grandmother to be recognized by the child earlier than the father (see Figure 13). This can be taken as an indicator of the difference in roles between families from rural Gujarat and Delhi.

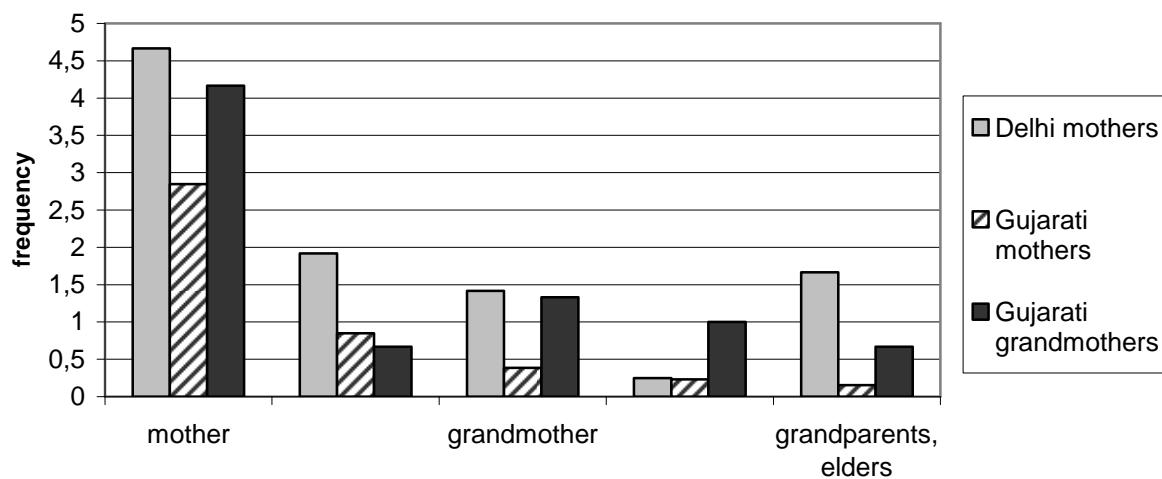


Figure 18: Frequency with which Parents and Grandparents Were Mentioned in the Interviews by the Participants of the Three Groups

As can be seen in Figure 18, the rural grandmothers and Delhi mothers talked about grandmothers approximately equally frequently while the rural Gujarati mothers talked less

about grandmothers. For mothers from Delhi the most frequent topic when talking about grandmothers were their activities. Asha said the following “if he [the baby] doesn’t want to play, if he’s not in a mood, then his grandmother, you know, just walks with- puts him on her shoulder and walks with him, whatever, whatever pleases him, you know.” Maitri took the child’s two grandmothers as an example for individual differences between persons interacting with the child.

[I]f I see at my my mother and my mother-in-law: my mother will always pick him up and cuddle him, my mother-in-law is not the type to pick up and cuddle the child. She’ll like to leave him on the bed and talk to him from a distance. That’s her way of expressing her love for him and my mother’s way is totally different. She’ll like to keep him in his lap and talk to him and that kind of a thing. So I guess those are different behaviors.

In the interviews with the Delhi mothers they sometimes compared the grandmothers to other caregivers for instance to the mother (Sita: “I will not be able to give that time or that sort of love which her uh dadi [paternal grandmother] was giving it to her. I cannot do what she’s doing; she cannot do what I am doing.”) or to the father (again Sita:

He [the father] thought that he he’ll he just might drop the baby. But now he’s very comfortable with her. So, uh, her way is like she knows everything, my mother-in-law, so she’s a bit more uh what what should I say she’s more confident of handling her).

Some mothers also pointed out that the grandmother has a special role for the child. Savitri from Delhi stated: “it’s the grandmother who becomes the closest [to the baby], most likely”. More than one third of the Delhi mothers’ statements concern the grandmother as a resource who supports the mother in her child-rearing efforts. An example of what this support looks like was given in Asha’s description of her daily routine:

I get up in the morning say about 8.30 when he [the baby]’s up finally, he doesn’t want to sleep after that- it’s around 8. 30, I just, you know, because it’s winters I just wrap him very well and give him to my mom-in-law who then afterwards and I just go back to sleep for say about whatever and she takes care of him, she plays with him

Two mothers point out that this is especially important if the mother is works outside the home. Sita:

But my mother-in-law is there and she helped me out so nicely with the child uh, she was always there with me even if I'm not able to understand anything, she's always there to guide me. So I know if I want to start working, she'll be there to help me out.

The rural Gujarati mothers also talked mainly of the grandmothers activities. Some statements refer to the fact that the grandmothers show behaviors towards the child that the mothers themselves do not show. But the evaluation of these behaviors is mainly positive. For instance when asked about praising the baby, Manjula, the 19 year old mother of a first-born son, living in a joint family:

Manjula: no, we don't talk like this.

Interviewer: if someone does it how does she [the mother] feel about it?

Manjula: I feel good. My mother does it, it shows warmth.

The rural Gujarati grandmothers talked as frequently about grandmothers' behaviors towards the child as about issues that concern the family structure or about restrictions through the caregivers' occupations. Anandi, a 46-year-old grandmother, without any formal education, explained that she can hold the child or make the child sleep in a cradle as long as the child does not need to be fed. She feels that the women of the household are restricted in their activities towards the baby.

[W]e have a lot of work. See, just I have come and she was alone. Both sister-in-law and herself [the mother] wash clothes and clean the utensils, and cook food, so we have to make him sleep we can't take him and sit only.

Grandmother Kokila explained that someone always has to stay with the baby to tend to the child when the child is crying which is sometimes difficult to organize, if the mother has some household chores to finish. Parul, 42-year-old grandmother of a girl, explained that she considers it her duty as an elder to take care of and show emotional warmth towards the family in general and the baby in particular. Anandi also pointed out that she does special things for the child, such as feeding him food that he likes, so that he will feel as a part of the family.

Parenting Systems and Interactional Mechanisms

There were no significant differences between the groups in how often they mentioned different behaviors (see Table 11). It seems that any differences that did occur were mainly due to the differences in the frequency with which grandmothers were mentioned. This is probably due to the extreme scarcity of statements concerning the grandmother in the rural Gujarati mothers' interviews.

Table 11: F-Statistics for Parenting Systems and Interactional Mechanism Mentioned for Grandmothers

	Comparison	df	F	P	partial η^2
Parenting systems	Rural vs. urban mothers	4,18	.54	.71	.11
	Control: overall frequency grandmother		1.69	.20	.27
	Rural mothers vs. grandmothers	2,15	.76	.487	.09
	Control: overall frequency grandmother		5.02	.021	.40
Interactional mechanisms	Rural vs. urban mothers	2,20	.09	.911	.01
	Control: overall frequency grandmother		10.38	.001	.51
	Rural mothers vs. grandmothers	2,15	1.36	.287	.15
	Control: overall frequency grandmother		1.53	.248	.17

Descriptively, the Delhi mothers made statements about body contact most frequently (0.91 times) followed by warmth (0.55), primary care (0.45) and vocal stimulation (0.36) whereas body stimulation (0.09) and child's positive signals (0.09) were mentioned rarely. The rural Gujarati mothers talked about body contact (0.15 times) and warmth (0.15) only, when talking about the grandmothers. The grandmothers mentioned primary care most frequently (0.67 times) followed by body contact (0.17) and shared attention (0.17).

Family Structure

The family structure determines whether or not the grandmother is present in the everyday life of the family. Maitri expressed that it depends very much on the situation whether having the grandmother in the household is advantageous or not: “[If] the mother is working then of course it is more advantageous to live in a joint family because if the mother is not there to express warmth at least the grandmother and other people are there to express warmth for a child.” As mentioned above, most mothers perceived and welcomed the grandmother as a support in the joint family.

The rural Gujarati grandmothers themselves did not always agree with what they think is their own or the mother’s role. Grandmother Padma, Leela’s mother-in-law, expressed this tension when she juxtaposed the normative belief with her own preference: “some mothers-in-law feel that the child’s mother should do all work for the child, I like to keep the child clean.”

Summary- Grandmother’s Role

The grandmothers’ role is closely linked to the family structure. In joint families she is present on a day-to-day basis and can be a support for the mother. Some participants felt that the relationship between grandmother and child is a very special one that cannot be replaced by anyone else.

While the mothers, particularly the Delhi mothers, saw the grandmother as providing the child with body contact and warmth, the rural Gujarati grandmothers mentioned their role as provider of primary care for the child most frequently, even if this might bring them in conflict with what may be seen as the mothers’ responsibilities. The results on frequency with which the grandmothers are mentioned and at which the child is expected to recognize the grandmother imply that the grandmothers perceive themselves as the most important

caregiver of the baby after the mother. They do not emphasize themselves as especially warm. Again, just as for the fathers, the Delhi mothers were most elaborate mentioning the most different behaviors of the grandmothers.

The Grandfather

The grandfather was mentioned very rarely, only 12 times overall and most frequently by the rural Gujarati grandmothers. From the mothers' comments hardly any picture emerged of the grandfathers' roles in the families. The grandmothers, especially grandmother Kokila who made many statements on the grandfather, painted an ambiguous picture of the grandfathers' behaviors ranging from threatening (Kokila on her own grandfather "They will take you by keeping you in this bag the grandfather said to child.") to very devoted and caring towards the child (Kokila on the target child's grandfather "if we don't swing then he [the baby] will cry. His grandfather used to stay there and pull the string [of the cradle] for 24 hours.")

It can be concluded that the grandfathers, at least from the mothers' point of view, often do not play a major role for the expression of emotional warmth for babies. However, when they were mentioned they were usually mentioned as playing with the child or supporting the women of the family, though they can also assume the role of the threatening patriarch of the family towards the children.

The Grandparents and the Family Structure

“Grandparents in our Indian set-up are of course important, very important.”

Savitri (Delhi)

Grandparents were mentioned mainly in the context of the questions concerning the family structure. Overall, the majority of the participants of all three groups believed that living in a joint family is better (see Figure 19). But while there were many statements on grandparents or elders by the Delhi mothers, the rural Gujarati mothers rarely talked about the grandparents or elders. Two of the rural Gujarati grandmothers talked about the role of or of being grandparents in the joint family.

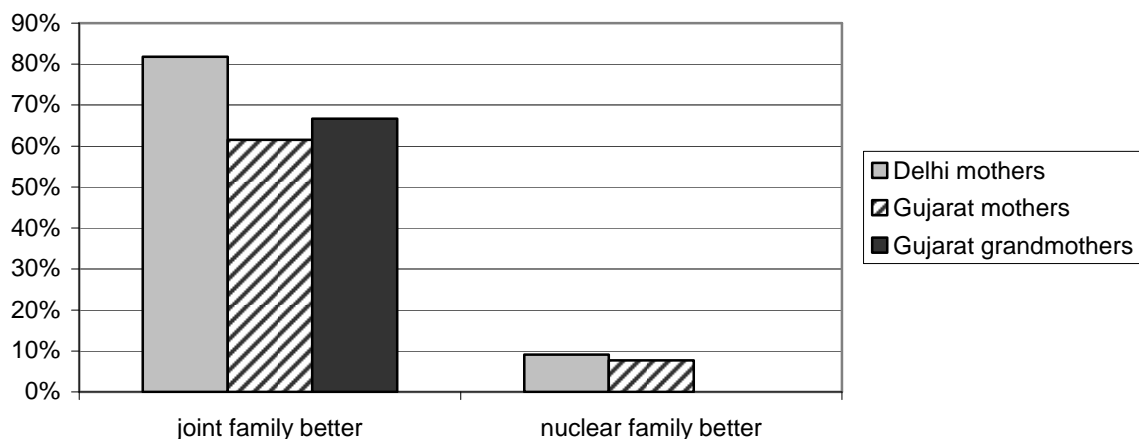


Figure 19: Family Structure Preferred by Mothers in Delhi, and Mothers and Grandmothers in Rural Gujarat

The Joint Family

Delhi Mothers

Some mothers from Delhi expressed the notion that generally more interaction with the child is better than less without necessarily restricting this to the grandparents. Others indicated the special relevance of the grandparents for the expression of warmth. In the

interview with Saroj (Delhi) for instance, she expressed the idea that the grandparents can't be replaced by the parents:

Interviewer: who will then take on the responsibility of expressing this warmth which was there for child in the joint family?

Saroj: mother and father are doing their best, but then that warmth cannot [be] like grandparents (hm); the way, the way they do, we can't do that.

There was also the notion which was already expressed in the section on the grandmother that the grandparents are better caregivers for children than other, non-related persons in cases in which the parents are not there or not available for the child. Sita (Delhi) put it this way

So I know if I want to start working, she'll be there to help me out. Or my parents are also going to be there to help me. So it's always better to be there in a joint family because you're more reassured.

Antara (Delhi) juxtaposes the family members of the joint family with hired helpers (i. e. the maid) who cannot, from her point of view, fulfill the role of an educator.

Antara: in a nuclear family it's just the mother and the father, usually just the mother and the maid. What can a maid teach a child? So that kind of a thing.

Interviewer: So that means according to you these are the advantages of a joint family.

Antara: ya

Interviewer: okay and uh who would express all the behaviors you know of love and uh ex warmth towards the baby in a joint family?

Antara: who would?

Interviewer: who all?

Antara: everybody. [...] Mainly grandparents are the ones who usually express a lot of love and care and they know how to deal with the child so that thing.

A similar concern for the child's wellbeing was expressed by Savitri

if you are with a joint family it's easier because the child is with maybe a grandmother or grandfather who's you know, whose prime concern would be of the child, you know th rather than a maid servant or something, so it's better I think better joint families are better.

Interestingly, both Antara and Savitri, who expressed the advantages of the joint family for the child so explicitly, live in nuclear families.

The elders of the family were also seen as potential source of information. Saroj said that in case she does not know what to do when the child is crying, the elders in the family can help out.

[M]y great-grandparents are more experienced, right? (Hmhm) they have their own uh, experience which they have got from their eh elders (hm), so these experiences come, I mean I can make use of that experience (hm) and help the child feel better.

Sita plainly stated “you get more advice that way, also” and even claimed that the joint family is a prerequisite for having children: “So that is why you should have children only when you’re able to - you know, you should you should be in a joint family plus uh you should not get tired out.”

Some of the participants also believed that the joint family structure is helpful for the child’s development. Maitri sees as major advantage of the joint family the moral and religious education of the children.

[A] lot of uh things like values and all trickle down much more faster from grandparents than from parents.[...] Values in terms of probably going to the temple regularly, praying regularly, that kind of a thing [...] I think those are important things which come down to children.

Some of the Delhi mothers also believed that living in a joint family would help the child to become more independent or to feel special. For example Geeta expressed this view “In a joint family the grandparents, the uncle or the aunt, they all show in a different way. The child gets love from everybody. So he feels more important than [in] a nuclear family.” Along the same lines Antara stated “[I]n a joint family he learns to be alone with his grandparents, with his aunts and uncles. So I think that way the child becomes more independent and he’s happier with those people around, he’s not uncomfortable.” These mothers seem to integrate an orientation towards autonomy into a related family setup.

However there are also participants who regarded some of the aspects of the joint family as problematic. As mentioned earlier some mothers did not approve of the tasks that

they would be assigned to in a joint family. Maitri compared her own situation in a nuclear family with the one in the joint family:

But in a joint family it doesn't work that way. Things have to be done on time. And they have to be done not just for three people but for a number of other people. So I think the responsibility of bringing up the child more comes to the grandparents than to the mother herself. [...] I think the mother is not able to give that much time to the child if the mother is in a joint family at least I feel so.

And Geeta who lives in a joint family herself talked about discrepancies between her own ideas on child-rearing and the grandparents' ideas:

My elder child is also there, when, when he does something wrong and I tell him, ne? 'this is wrong, why have you done this?' but my grandparents they don't like me shouting at him. (hm) When I shout at him they s shout at me, like 'why you are shouting at him?' which is not good. This is not love for the baby. (hmhm) This is something which you are spoiling the baby. So this time this the love which the grandparents showing to the child is not good.

Rural Gujarati Mothers

As noted earlier there were few statements of the rural Gujarati mothers on grandparents. However they did talk about the advantages of living in a joint family. A common thought here was that because there are more people in the joint family, there would be more time- more time to express emotional warmth to the baby or more time to finish the household chores. Madhu, the 20-year-old mother of a later-born boy, who lives in a joint family, explained "When all are staying together then if we are doing work then somebody is playing [with the baby]." And when Tara, the 20-year-old mother of a first born daughter, was asked whether she would be able to express emotional warmth towards her baby better in a nuclear or in a joint family, she stated: "when everyone is there, we get time for this [the expression of emotional warmth]."

The rural Gujarati mothers also pointed out that the joint family can be a support. For instance if a family member falls ill the other family members can take care of that person by taking him/her to the hospital or making tea for him/her. According to the rural Gujarati

mothers other persons who are not members of the family cannot love a child as much as the family members, as can be seen from the interview excerpt with Champa, a 21-year-old, high school graduate, who is the mother of a later born daughter:

Interviewer: Can other people take the place of family members?

Champa: No way, they cannot give love like whole family members give.

However, the rural Gujarati mothers also expressed some ambivalence. For instance Shaku said that although it may be good for the child to live in a joint family, for herself, it might not be as pleasant. “In the whole family she [the child] will get more love, they would not call me but would call my child and play with her.” Even for the child she expressed some doubt: “My mother-in-law and father-in-law will love my sister-in-law’s children more”. And Kailash explained that both family structures suit her because “[w]e are not having any fights/problems with our family”, implying that life could be miserable in a joint family, also.

Meena compared the way the baby is treated by the maternal and the paternal family. She claimed that the maternal family spoils the child by not scolding and not beating the child but fulfilling his demands, whereas the child is afraid of his paternal grandfather who threatens the child and in that way makes him behave. Meena therefore claimed that the paternal grandfather’s authority is a necessary influence on the child. However, she felt that the child gets more emotional warmth from the maternal family.

Rural Gujarati Grandmothers

The rural Gujarati grandmothers saw the joint family structure as beneficial. None of them thought that living in a nuclear family is preferable. The benefit of staying together was perceived on different dimensions. Rekha, the 80-year-old grandmother of a baby girl pointed out that she feels good because of the company that the joint family provides. “[The] whole family is together, [we] sit together, so [we/I] feel good.” There was also the notion that the household- and childrearing chores can be divided between different family members.

Grandmother Kokila explained this position: “In [a] big family also work can be done as so many helping hands are there, to take him.” Grandmother Ratana pointed out the economic benefit of staying together: “[I]f we cook jointly it will be helpful and there is profit if we stay together, (...) in [a] joint family money will be spent less”.

For the expression of emotional warmth towards a baby the joint family was also seen as the better option by the grandmothers. Grandmother Ratana explained: “we all are staying together, then [we] have more warmth at heart and give it”. She also felt that because all the family members are close by, they express their emotional warmth towards the child. If the child lives with her parents only then the nuclear family has to visit the other family members or be visited by the members of the joint family to enable the relatives to interact with the baby. Grandmother Kokila feared that the baby would not get to know her if the baby was living in a nuclear family.

The rural Gujarati grandmothers also believed that the family’s love cannot be replaced by non-relatives. Grandmother Padma explained this phenomenon in some detail when asked about the emotional warmth that neighbors can (potentially) provide to the child. “If the relations develop good than the neighbor play with him.” On second thoughts however she remarked that the neighbors have children of their own, and primarily take care of them. According to her, even if a family adopts a child it cannot be taken for granted that they will love the child.

The Nuclear Family

Only a small percentage of participants found the nuclear family structure preferable. Accordingly many participants had some unfavorable things to say about nuclear families. Antara from Delhi pointed out, that children from nuclear families “will not be comfortable” if they are left with (extended) family members.

Additionally, it is usually in nuclear families that the parents become dependent on non-family members as caregivers for the child. As pointed out earlier, these persons were not seen as an appropriate substitute for family members as caregivers. The rural Gujarati mothers were not as concerned about the appropriateness of other people's care giving. Although some of the Gujarati mothers agreed that non-family members would not be as loving and caring towards the child, others felt that neighbors can express emotional warmth as well as family members. However, the thought that the child may get neglected if the mother is busy with other chores troubled some of them. Manisha, an unschooled 25-year-old mother, who lives in a nuclear family herself, said "Now if she is staying alone, her husband goes for 8 hours job [...]. If the child is crying she has to make food, as the person will [come home] at 12 o'clock to eat. So [the] child will get less love".

This was also a major argument the rural Gujarati grandmothers had against nuclear families. When asked about advantages of living in a nuclear family grandmother Kokila replied "Who will take care of him and who works and take care of both? If mother stays alone then what she will do? We have to think about that." Padma, however, thinks that it depends on the parents whether staying alone is an advantage. "If they are intelligent than it is advantageous; if they do not know how to handle, how to feed him, then the child will not grow properly."

Some mothers also saw advantages in the nuclear family, both for themselves and for the children. Rural Gujarati mother Kailash felt "It is better to live alone. I just look after my child and family. Others are living for their family."

Savitri from Delhi felt that the nuclear family is advantageous for the parents, but not the child:

Interviewer: okay and could there be any advantage of being in a nuclear family?
Savitri: except for the parents, I don't think so.
Interviewer: like what exactly?

Savitri: I mean parents ok they start living their own life and that kind of thing but for children I feel it's good if they have their grandparents with them. There is a uh emotional support for them.

Maitri felt that nobody imposes rules or tasks on her if she lives in a nuclear family: "In your own house you don't have to, even if you don't cook once it doesn't matter."

Independence, a value that several mothers from Delhi expressed in connection with the joint family was discussed by two more Delhi mothers in the context of the nuclear family. In Priya's opinion an advantage of growing up in a nuclear family is that the child becomes more independent earlier than children in joint families:

nuclear family also has advantages. The baby becomes a bit independent, uhm quickly. He's- I've seen that in my case that my sister-in-law she lives in a nuclear family so when K. [Priya's child] and [her] son A. are both the same age, so A. is a bit more independent than K. because in a joint family all people tend to fuss over the baby, they they kind of do chores for the baby that he may generally do it for himself.

However, in another interview, Sita qualified this. She felt that although it may be easier for a child to develop independence in a nuclear family, the nuclear family is not necessary for the child to become independent.

Interviewer: are there any advantages of a nuclear family?

Sita: advantages? In a nuclear family?

Interviewer: you don't think so.

Sita: no

Interviewer: okay

Sita: ya, the child becomes independent. But if you're giving him or giving her the right treatment, the right environment then also the child can become very independent.

Maitri added another aspect by commenting on the quality of the relationship between a mother and her baby. "[A] mother can bond much better with her child in a nuclear family". She also expressed that the child gets more attention in a nuclear family and that the parents are more conscious about providing a favorable environment for the child.

[I]n a nuclear family the child is totally the focus of attention and you try to give a lot of attention to the child and try to bring up the child [...]. So I think the expression of warmth is more there in a nuclear family.

Three Delhi mothers thought that both nuclear and joint families are ok. Antara seemed slightly annoyed by the question about advantages of the nuclear family. She continued by saying “It’s just- if you are in a nuclear family you are in a nuclear family”.

Summary- the Family Structure

An overwhelming majority of participants believe that the joint family is the preferable family structure. On the one hand mothers can expect the members of the joint families to help them with their work, to advise them in childrearing questions and in case of some Delhi mothers, to take care of the child if the mother becomes employed outside the home. The rural Gujarati participants also mentioned the economic benefits of living in a joint family. Grandparents, especially the grandmothers play an important role in expressing warmth towards children and some participants mention that the child feels particularly close to the grandmother. The grandfather’s role is not made very explicit.

For the Delhi mothers the question how a child will become independent is discussed in the context of the family structure. The mothers disagree however what independence is (for some it is the ability to get along with joint family members independent of the parents, for others it is the ability to fulfill own needs and play alone), and whether it is the nuclear or joint family that fosters independence.

The joint family is also seen as a (potential) source of frictions between the generations, for instance when the ideas of the different generations on child care clash. And the fact that a daughter-in-law faces many restrictions leads several mothers to state that they prefer living in a nuclear family in which they do not have to follow their mother-in-laws’ suggestions and where they only have to take care of their own family. In this context the potential closeness between the grandmother and the child can be seen as interfering in the bond between mother and child.

Other Family Members

Other family members were mentioned frequently but often they were unspecified. Very general statements about “everyone in the family” or “the whole family” were often made. Both uncles and aunts were mentioned frequently as individuals but they often appeared in a list with other family members and their activities were seldom specified. Geeta from Delhi for instance explained “In a joint family, the grandparents, the uncle or the aunt, they all show [emotional warmth] in a different way. The child gets love from everybody.” Manjula, from rural Gujarat replied to the question who should express emotional warmth towards the child by saying “Mother, father, all, father-in-law, mama [maternal uncle], mami [maternal uncle’s wife], mata [maternal aunt’s husband], masi [maternal aunt], fua [paternal aunt’s husband].”

Another way to talk about child-rearing and the expression of warmth used by the rural Gujarati participants was to refer to “we”, “us” or “our child” (see Figure 20). Ramila explained

We cannot throw out our child. It’s our own child so we have to take care of him. If he gets diarrhea or vomiting then also we have to take care of him. It’s our child so we cannot throw him out.

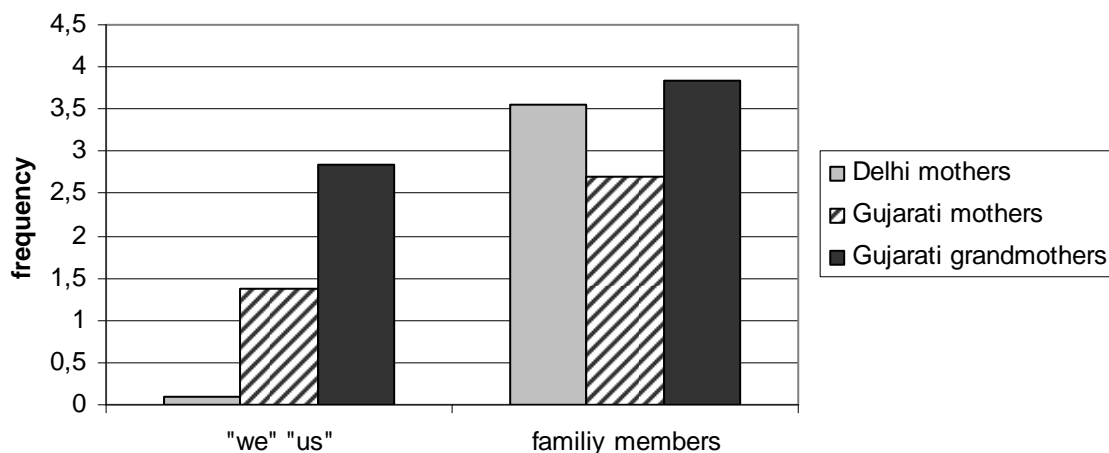


Figure 20: Frequencies of the „We“-Category and (Non-Specified) Family Members

While these statements sometimes referred to moral rules, they are more commonly understandable as statements about the participant and the members of her family (e. g. when Ramila says “our own child”).

Similar to the analyses of the parents’ and grandmothers’ activities ANOVAs were calculated for the family members including the more general “we” the Gujarati participants use.

Parenting Systems

The comparisons between the parenting systems mentioned by the participants failed to reach significance, but especially in the comparison between the rural Gujarati and Delhi mothers the effect size is fairly large and therefore again, the differences are interpreted cautiously. In the ANOVA on the parenting systems other family members’ engage in, sample (i. e. rural vs. urban mothers) did not yield significant effects (analysis V.1.other family members: $F(6, 16) = 2.11, p = .108$; partial $\eta^2 = .44$) nor did the controlling variable frequency with which family members were mentioned ($F(6, 16) = 0.87, p = .540$; partial $\eta^2 = .25$). The variable generation (i. e. rural mothers vs. grandmothers) does not reach significance in the ANOVA on the parenting systems other family members’ engage in, either ($F(4, 13) = 0.89, p = .498$; partial $\eta^2 = .22$). The controlling variable frequency of family members showed a tendency ($F(4, 13) = 2.71, p = .077$; partial $\eta^2 = .46$).

The difference between the rural Gujarati and Delhi mothers seems to be mainly due to the difference in face-to-face interactions that are mentioned (see Figure 21). Face-to-face interactions are not mentioned by the rural Gujarati participants for other family members at

all, while they are mentioned by the Delhi mothers. Other differences seem to be due to a large extent to the difference in frequencies that different persons are mentioned.

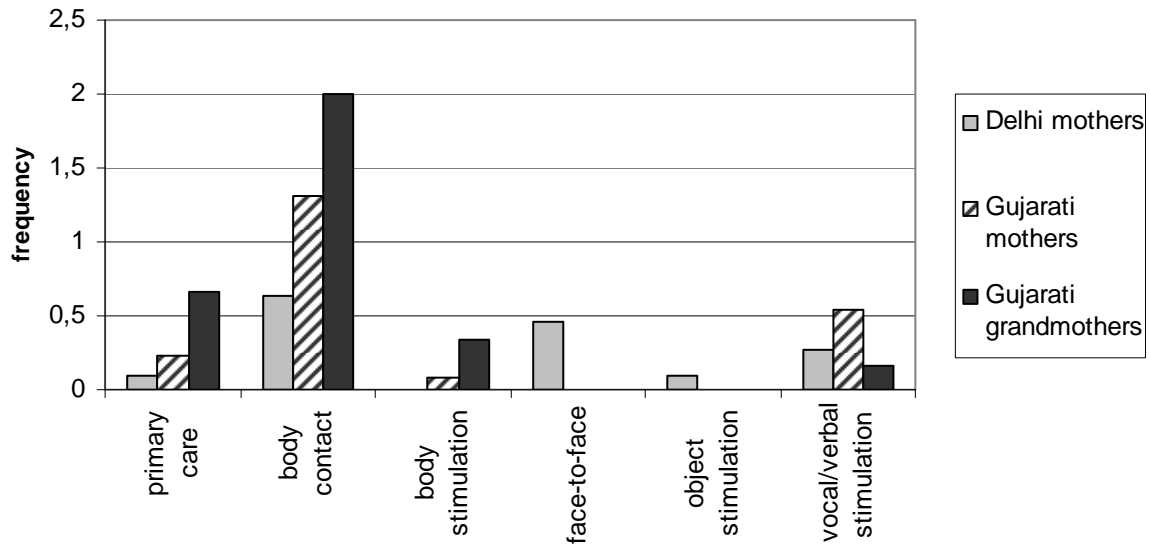


Figure 21: Frequencies of Parenting Systems when Talking about Family Members

Interactional Mechanisms

Neither the analysis on rural and urban mothers (analysis W.1.other family members: $F(4, 18) = 0.74$, $p = .579$; partial $\eta^2 = .14$; controlling variable frequency with which family members were mentioned $F(4, 18) = 5.75$, $p = .004$; partial $\eta^2 = .56$), nor on rural mothers and grandmothers yielded significant differences (analysis W.2.other family member: $F(4, 13) = 0.76$, $p = .57$; partial $\eta^2 = .19$; controlling variable frequency with which family members were mentioned $F(4, 13) = 22.17$, $p < .001$; partial $\eta^2 = .87$).

An analysis on the frequency or presumed relative importance of different behaviors of the different family members had been planned. However, the analyses had to be limited to the parenting systems because the interactional mechanisms were not frequently mentioned. Furthermore, comparing the parenting systems of different family members had to be reduced to the comparison between mothers and other family members because in case of the other

comparisons, sample sizes were very small due to missing comments of many participants. This choice also seemed justified because the analysis -described above-, on the frequency with which different persons are mentioned showed that the mothers and family members were the most frequently mentioned.

The samples were not compared in this analysis, again due to many missing values. The result shows an effect of the person who /group which is talked about ($F(5, 13) = 3.30, p = .038$; partial $\eta^2 = .56$). Namely when the subjects talk about the mothers, they talk about primary care more frequently ($F(1, 17) = 16.52, p = .001$; partial $\eta^2 = .49$), but when they talk about family members they talk about vocal/verbal stimulation more frequently ($F(1, 17) = 5.83, p = .027$; partial $\eta^2 = .26$). The other behaviors are mentioned approximately equally frequently. The lacking differentiation between the three groups of participants can be rectified post-hoc by the similar tendencies that become visible in Figure 22.

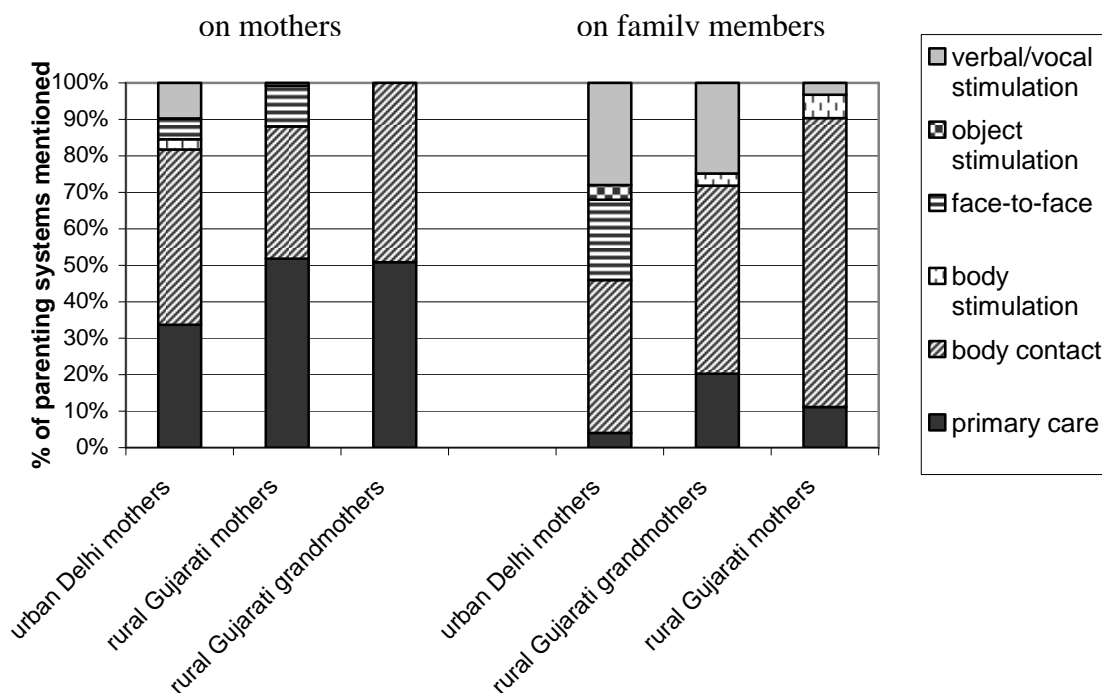


Figure 22: Relative Frequency of Different Parenting Systems Mentioned by Urban and Rural Mothers and Rural Grandmothers when Talking about Mothers and Family Members

CONCLUSION

Caring for an infant involves a complex system of behaviors. The caregiver is not isolated in her actions but is embedded in a physical and cultural environment. This environment involves the family or household the person lives in, but also encompasses more global factors, as diverse as climate, cultural traditions, economy and infrastructure. The aim of this study was to study factors that were assumed to be related to the expression of emotional warmth. While emotional warmth seems to be a universal aspect of parenting, cultural specificities, differences pertaining to the importance of emotional warmth and relatedness, and different modes of expressing emotional warmth related to education, could be identified.

Intercultural Importance of Emotional Warmth

Universal Importance of the Expression of Warmth

Common sense and psychological theories have suggested that it is necessary for a baby to experience a certain amount of emotional warmth (Rohner, 1986; MacDonald, 1992; Keller, 2002; Maccoby & Martin, 1983). This study has convincingly demonstrated that caregivers from cultural communities as diverse as affluent, highly educated Euro-American mothers from Los Angeles or, poor, illiterate grandmothers from rural Gujarat find the expression of emotional warmth towards a baby important.

Prior theories (Rohner, 1986; Keller, 2002) also assumed that the ways in which emotional warmth is expressed by members of different cultural groups would be alike. While this was not examined for the Euro-American and German sample in this study, participants of both Indian samples were fairly similar in the behaviors they mentioned frequently as expressions of emotional warmth, stressing body contact and “warmth” most over the other parenting systems and interactional mechanisms. Moreover, their perception of the expression

of emotional warmth was in congruence with the Component Model of Parenting supporting the model's claim of intercultural applicability by showing its relevance for the conceptions of Indian caregivers from two different regions and socio-economic strata.

Relatedness

Despite the evidence that the expression of warmth is part of a universal parenting repertoire, one of the major hypotheses of this study was that there would be differences in the importance allocated to emotional warmth in different cultural communities. An aim of this study was therefore to relate the differences in ideas on the expression of emotional warmth to a more general model of cultural functioning and family organization. Kagitcibasi's model of agency and relatedness was chosen as a model encompassing both socio-economic factors and psychological disparities. The importance of the expression of emotional warmth was expected to vary with the emphasis put on relatedness. This was largely confirmed in the analyses- both across the three different countries and between the generations within India. An important aspect of Kagitcibasi's model is that it also facilitated the prediction that caregivers from rural Gujarat and Delhi would not differ systematically in their emphasis on relatedness and emotional warmth. Other theories may have predicted differences due to the disparity in the socio-economic living conditions and educational experiences of the mothers involved in this study. Kagitcibasi's model could be confirmed in the comparison of the two Indian samples with the Euro-American and German sample, with the exception of the interview data for the rural Gujarati mothers.

Unexpectedly, the analyses showed that in the two Indian communities studied here, living in a nuclear or joint family was not linked to differences of relatedness or importance of the expression of emotional warmth. According to the hypothesis, it was expected that living in a joint family would be associated with a larger level of relatedness among the family

members. Emotional warmth towards the baby was assumed to be more emphasized in joint families because compliance and respect on the part of the younger family members- fostered by the experience of warmth- are more crucial in joint families. Adults' ways of raising their children is shaped by what they experience as children (IJzendoorn, 1992; Main & Goldwin, 1984; Ricks, 1985). It could therefore be that the lack of differences between participants living in joint and nuclear families is due to similar experiences (of living in joint families) in the participants' childhoods. It is popularly believed that the joint family in India used to be much more predominant earlier but is collapsing now (Shah, 1998b). Shah (1998b) however states that living in joint families has always been more of an ideal and myth in India than a reality. But even though joint families may not be as prevalent as physical entities, there are close psychological ties among extended family members. This becomes apparent in socialization practices such as teaching children the proper way to address the members of the usually large extended family network even though they may live far away (Chaudhary, 2004). Furthermore, most participants of this study reported to prefer living in a joint family, whether they actually lived in a joint family or not. It seems that the ideal of living in a joint family and the virtues related to this living arrangement are psychologically powerful and fairly independent of the participants' actual living conditions.

Within the joint families some generational differences in relatedness and emphasis on emotional warmth were expected and found. Grandmothers were expected to be oriented towards relatedness more than mothers, mainly because they have been described as exceptionally warm towards children but also because their position in the (hierarchically organized joint) family is stabilized by children who show respect, obedience and compliance. The expected differences were found in the Family Allocentrism Scale and the picture card interview but not in the questionnaire. This is an impressive demonstration that members of the same family may not follow the same ideals in child-rearing. Whereas this has been shown for mothers' and fathers' behaviors in earlier studies (Seiffge-Krenke, 2001; Lamb,

1977), the inclusion of grandmothers in psychological studies is not very common. Grandmothers have been mentioned as powerful agents of socialization in the Indian context. This thesis is therefore a step towards understanding the grandmothers own beliefs on their and other family members' roles in taking care of their grandchildren.

Fostering Autonomy in Emotionally Warm Situations

Caregivers from Delhi were expected to have a higher orientation towards fostering autonomy in their children than caregivers from rural Gujarat. The indicator for the orientation towards autonomy which was used in this study was the participants' years of education. According to Kagitcibasi's model caregivers from rural Gujarat would foster mainly relatedness in their children and not encourage- they may even discourage- the development of autonomy. In contrast to this, caregivers from Delhi are expected to follow a model of autonomous-relatedness and foster both autonomy and relatedness in their children. To achieve this, it was argued, caregivers would try to emphasize behaviors that are fit to foster both socialization goals. In this case distal expressions of warmth would leave room for expressing autonomy-fostering behaviors as well. Therefore differences between participants from rural Gujarat and Delhi in the preferred modalities of expressing emotional warmth were expected and found. Mothers from Delhi had received more formal education and they also stressed distal expressions of warmth more, mentioned distal behaviors more frequently when asked to describe behaviors that express emotional warmth and talked about abstract concepts more frequently. They assumed the child's mental capacities to develop early on (cf. footnote 5) and elaborated on the child knowing and differentiating between various persons. They were also concerned with the child developing independence even though they did not fully agree on the concept or in which family setting it is best developed.

In this aspect the study confirms that education can be understood as an indicator of a socio-cultural orientation entailing autonomy. Education is not only related to the level of abstraction mothers use when expressing their ideas, but also to the content (i.e. the ideal on the modalities employed when expressing emotional warmth). The study sheds some light on the autonomous-related family. If asked (as was done here) about an aspect of care-giving-behavior that fosters relatedness, the autonomous-related caregivers' preferred ways of expressing this behavior are shaped by their orientation towards autonomy. Mothers seem to be able to integrate the two socialization goals, as was also suggested by Kagitcibasi (2005). Not only are autonomy and relatedness not mutually exclusive, they also do not need to be fostered through separate behaviors. Rather, it seems that those behaviors, that combine both socialization goals, are preferred. For the mothers from Delhi the facial expression of warmth seems to fulfill this criterion. Other behaviors do not lend themselves as easily for a combination of autonomy- and relatedness- fostering socialization goals. In the context of talking to the child, the child's cognitive development (autonomy) is prioritized while the emotional warmth expressed in the situation becomes secondary. Logically, a combination of the two socialization goals is possible, but in the minds of the mothers, the cognitive aspects of speaking to the baby dominate.

The participants' membership in one of the generations was also expected to influence their orientation on the agency dimension. Grandmothers were expected to be oriented less towards autonomy than mothers, mainly because of less formal schooling they had received and because of individualization and modernization tendencies of the society over the last decades. The difference in orientation towards agency was not found. This seems to imply more stability in women's lives in both urban and rural settings than was assumed.

Developmental Pathways in Infancy

The patterns of expressing warmth that are described above are part of larger parenting styles that have impacts on the children's development. This was also perceived by the caregivers interviewed here, who at times felt that questions on the topic of emotional warmth alone, were artificial. They stated that there are other aspects of caregiving that need to be taken into account, as well. In the past, the three suggested family prototypes (interrelated, autonomous-related and independent) could be related to infants' differing experiences that were connected to later differential developmental achievements. The interrelated child's experiences are characterized by body contact, body stimulation, experiences of emotional warmth and an emphasis on the regulation of negative affect. They usually experience many caregivers who divide their attention between the child and other tasks. This study confirms that rural Gujarati caregivers' representations of caregiving match these behavioral observations. Emotional warmth was perceived as very important for the child and the expression through body contact was the preferred modality. Many different family members were mentioned as expressing emotional warmth. The joint family was preferred as a living arrangement and often the caregivers spoke of "we" instead of themselves as individuals.

Children from independent cultural communities experience face-to-face situations frequently, namely that they are the center of attention and that their signals are answered contingently. Moreover, they predominantly experience exclusive dyadic situations with their primary caregivers (usually their mothers) and gather early experiences with toys. The relatively lesser emphasis on warmth was also confirmed in this study.

Children of autonomous-related caregivers experience mixtures of the two described styles. While theoretically they could be assumed to receive large amounts of both types of behaviors, empirically they are usually found between independent and interrelated samples.

A discussion on how caregivers from Delhi negotiate and realize autonomous relatedness was discussed in the section “Fostering Autonomy in Emotionally Warm Situations”.

As far as the later development in infancy is concerned, children from independent cultural communities were shown to develop a categorical sense of self sooner (Keller, Yovsi et al., 2004; Keller, Kaertner et al., 2005) and they had earlier, more emotional and more elaborate autobiographical memories than children from interrelated communities (Wang, 2001; Han, Leichtman & Wang, 1998). Children from interrelated communities on the other hand were often shown to be motorically precocious (c.f. African infant precocity; Super, 1976) and develop compliance earlier (Keller, Yovsi et al., 2004). Again children from autonomous related communities could be found in between the two other patterns (Keller, Yovsi et al., 2004).

Culturally Specific Obstacles and Antagonists in Expressing Emotional Warmth

A culture-specific obstacle while expressing emotional warmth, which emerged from the interviews with the rural Gujarati caregivers, is the fear of the evil eye. For instance praise, though it is recognized as an expression of warmth by the participants of this study, is a somewhat ambivalent topic for them. Rohner (1994) suggested that Indian mothers’ modesty keeps them from directly praising their children, though they may show their affirmation for the child in more subtle ways. In case of the rural Gujarati sample it is mainly the fear of the evil eye that seems to inhibit caregivers. A similar idea had been suggested by other authors (Seymour, 1983; Trawick, 1992). Every behavior that accentuates the child and/or could provoke other persons’ envy is therefore avoided. It is possible that caregivers are in an absurd situation: they may want to protect the child from the evil eye and therefore inhibit the expression of emotional warmth. The inhibition of warmth understood in this way, may, therefore, be a demonstration of emotional warmth.

The distinction between dyadic or familial and public situations in which emotional warmth is expressed is probably crucial at this point. The topic of envy (Spiro, 2005) becomes salient only in the presence of persons who feel envious. In line with this, Trawick (1992) describes that it is particularly in public situations in which the mother inhibits her expression of emotional warmth. This distinction also seems to surface in the concern mothers feel about the presence of outsiders. This was expressed by some of the Gujarati participants in the interviews on which this study is based. A closer examination of the current fears of Delhi mothers concerning hygiene, feeding the child in public, and their fear of the carelessness of strangers could also hint in the same direction. It is noteworthy in this context that some urban Delhi caregivers attempt an integration of traditions and their elders' concerns surrounding the evil eye with their own current concerns. It seems that some of the issues voiced by participants from rural Gujarat and Delhi overlap, though their terminologies differ.

This study focuses on the expression of emotional warmth. There may be culture-specific antagonists of warmth. As suggested by the literature (Baldwin, 1955; Baumrind, 1971; Schaefer, 1959; Becker, 1971), neither in rural Gujarat nor in Delhi is discipline considered an antagonist of emotional warmth per se. Mothers from Delhi rather perceive a danger of misunderstanding emotional warmth and spoiling the child by becoming overindulgent. Spoiling the child includes neglecting the child's discipline. In rural Gujarat some caregivers feel that love may interfere with disciplining the child to an adequate extent. On the other hand there are caregivers who see disciplining itself as an expression of love. Padma, a rural Gujarati grandmother is an example of this orientation. When asked if the mother was to beat the child, she stated: "But that also shows her love." It can be assumed that discipline and emotional warmth in the sample as a whole would constitute either independent factors or that emotional warmth and discipline go hand in hand. The acceptance of corporal disciplining as part of an emotionally warm parenting style by the rural Gujarati caregivers (as expressed in the interview example above), however, constitutes a contrast to

Rohner's conceptualization. According to Rohner (1986) hostility/aggression (of which corporal disciplining would be part) is the opposite of warmth. In case of the rural Gujarati caregivers it seems more that a lack of involvement is perceived as the prototype of non-warm or rejecting behavior which Rohner (1986) would see as the indifference/neglect prototype of rejecting behavior. The rural Gujarati caregivers' conceptualization is probably due to the constraints on the caregivers' time that are posed by their relative poverty. The danger of overindulgence perceived by the mothers from Delhi is on the other hand probably also an effect of their comfortable socio-economic situation.

This study is based to a large extent on Component Model of Parenting (Keller, 2002). Therefore the focus was on behaviors that express emotional warmth. In spite of this focus the analyses yielded a category of abstract ways of talking about emotional warmth by the Delhi mothers. It is possible that if this area of experience is lacking, the child will feel an undifferentiated rejection (Rohner, 1986). That is, even though the caregiver does not do anything specific to make the child feel unloved, the child feels rejected.

This study strengthens the demand to include the socio-economic setup into psychological theorizing. Rejections can look very different in different circumstances and some behaviors theorized to be rejection might not even be viewed as rejection by the caregivers. However, the effects of rejection have been shown to have cross-cultural validity and go along with specific constellations in the children's personalities (Rohner, 1994).

Methodological Issues

Which measure of the emphasis on emotional warmth is more adequate seems to differ in regard to the groups which you compare. Across the samples of mothers the two measures of warmth correlate slightly positively with each other (all mothers: $r = .20$; $p = .051$; only Indian mothers: $r = .17$; $p = .357$), however, they do not provide equivalent results

in the analyses. While the cross-cultural comparison led to more convincing results from the questionnaire measures, the generational comparison showed theory-conform results only in the interview data. For the comparison between rural and urban Indian caregivers' ideas both measures yielded interpretable results.

The results seem to point to the interpretation that the questionnaire measures may be particularly well suited to depict cross-cultural differences. Questionnaires are highly standardized and less dependent on skills, such as verbal fluency, than interviews. Questionnaires can be designed to match theoretical assumptions very closely at the price of not taking into consideration the participants' issues which may differ from the researchers', particularly in cross-cultural research. In this study the measures of warmth from the questionnaires and the measures of family allocentrism score seem to be fairly closely related, which was expected (e.g. for all four cultural groups (c.f. analysis C): $r = .17$; $p = .042$; within the Indian samples $r = .30$; $p = .037$). As both sets of data were collected using questionnaires these correlations could also be due to answering tendencies. This does not seem particularly likely, however, because the correlation is as strong for the interview data (c.f. analysis D: $r = .30$; $p = .004$).

Interviews may not lead to comparable results in case of samples with very different conversational styles which in turn are related to formal education, among other factors. The content of an interview is closely related to stylistic elements, an interconnection which was not taken into account in this thesis. If stylistic elements are not taken into consideration, interviews seem to lead to better results if participants of comparable educational backgrounds are studied.

Advantages of interview approaches are that they leave more scope for the participants to express their own issues and that more open ended analyses can be applied. The evident and frequent mention of "playing" in this study is an illustration of a concept that may be of major importance to the studied participants, but would have escaped the researcher in a

questionnaire-only design. The interview data from Delhi on the topic of baby talk additionally illuminates how participants can specify and clarify their reactions on questionnaire items. An open ended approach thereby ensures that the cultural specificities and interpretations do not get lost.

The chances and difficulties of both types of methods necessitate a triangulation of methods. This ensures both comparability of data and the possibility of detecting cultural specificities.

Limitations and Suggestions for Further Research

Sampling

The urban samples for this study were carefully selected for their comparability, particularly in terms of their educational level. The rural sample was drawn from the same country as one of the urban samples (India), but differed in their means of livelihood, affluence and education. The two Indian samples are both from North India which is often described to constitute a more or less homogeneous culture. Theoretically it was assumed in this thesis that cultural communities are defined to a large extent by socio-economic factors. The differences found were thus attributed to these factors and taken as prototypical for “rural” (farming, limited access to formal education) and “urban” (middleclass, highly educated) samples in North India. It cannot be excluded that some of the differences between the rural and the urban samples studied here are related to regional differences. For example Gujaratis are perceived to be tidy by other North Indians (Rashi Gupta, personal communication, November 2006). It would be necessary to study rural and urban samples from the same region, or matched rural or urban samples from different regions to clarify the influence of regional differences.

The grandmothers and mothers in this study were expected to hold different childrearing ideas related to processes of social change over the last decades in India. Surprisingly mothers and grandmothers are fairly similar in many of their beliefs. This may be due to the fact that the samples are not independent of each other, mothers and grandmothers being from the same families. However, the grandmothers were the paternal grandmothers and therefore the adaptation of ideas would have been a fairly recent process, namely after the mothers' marriage. Therefore it seems that the failure to detect differences between the generations is related to a larger sub-cultural stability than expected. Mothers and grandmothers were fairly similar in their educational achievements and there may have been little relative social mobility between the generations. This implies that the social changes that can be perceived for India at country level are either fairly slow when the family level is observed or apply to certain groups (other than the ones studied) more than to others. Major differences in the educational level of the generations within the samples would have probably been a good indicator for social mobility. A sampling strategy that would have sampled for educationally diverse generations would have probably resulted in more clear-cut differences in agency-related measures.

Autonomous-Related Families

The autonomous-related families, their socialization strategies and the context they live in, leave scope for further speculations. The autonomous-related family is seen as a result of formerly interdependent, traditional cultural communities becoming more educated and affluent (i.e. economically independent). It can be assumed that some of the cultures that are presently independent were also interrelated at earlier points of their history (e.g. Europe before the Industrialization). Kagitcibasi does not perceive the autonomous-related family model as an instable product of modernization that will disappear later in favor of the independence model. Therefore an unresolved question would be: Why do some cultural

communities retain their orientation towards relatedness while others do not? So far little is understood about the processes that take place when a cultural community changes from an interdependent to an autonomous related one.

Another issue concerns the individual level. The dimensions of agency and personal distance are assumed to be independent. This study demonstrates that the behaviors that autonomous-related caregivers prefer enable them to combine both dimensions, but that in some cases they also prioritize one dimension over the other. It would be a task for the future to identify behaviors that lend themselves to a combination of goals and to find out which behaviors trigger a dominance of one dimension. This could shed some light on the question whether autonomy and relatedness are domain-specific in autonomous-related persons, each occurring in certain types of situations, and if this is the case it would help to identify precursors of this domain specificity in caregiver-infant interactions.

Behavior-Belief

The focus of this thesis was the caregivers' ethnotheories. An aspect that was not studied here is the babies' actual experience of emotional warmth. It is possible that the behavior the caregivers show does not match their beliefs. This may be related to constraints that everyday life poses, though some of these constraints were also mentioned in the interviews. The family structure, though it is not related to differences in the ideas on the expression of emotional warmth, may well be related to differences in the actual expression of warmth. The number of different (potential) caregivers differs in both family structures and each caregiver may have her own style of interacting with the baby. The child in the joint family would be subjected to more diverse, but maybe shorter or less frequent expressions of emotional warmth. Differences between rural and urban children's experiences can also be expected. These differences may concern the modalities in which emotional warmth is

expressed but also the person who expresses emotional warmth. In line with the urban mothers' view of the father's role, the urban children may experience their fathers in more varied situations (e.g. primary care) than the rural children. For the urban children, interactions with outsiders would probably be limited to a smaller number of regular contacts (e.g. the maid) whereas the rural child, facilitated by the openness of houses and courtyards, regularly experiences chance passers-by. An expansion of this study could therefore include observational measures to study the expression of emotional warmth towards babies.

Perspectives

It is not clear whether the different modes of expressing warmth and the different behaviors are experienced as equally warm by the caregivers and the child. This is likely to be dependent to some extent on the cultural group and on the child's age. Rohner (1986) argues that it is the children above one year of age who experience differences in the expression of emotional warmth most severely. His argument is that from this age on, children start comparing their own experiences with those of other children. However, it can be assumed that certain behaviors (such as being caressed or cuddled) are understood by the child as being emotionally warm, independent of social comparisons. On the other hand children who start understanding cultural constructs and the intentions their caregiver may have, may be able to interpret less warm or even rejecting behaviors more positively. For instance, if the child shares the caregivers' fear of the evil eye, she may also have a better understanding of constraints that the caregiver experiences when expressing emotional warmth. There may be subtle and private ways in which a caregiver expresses his or her affection that are learnt by the child in time. An example is described by Rohner (1994) who explains that the meticulous peeling of an orange by a mother is understood as praise by her daughter.

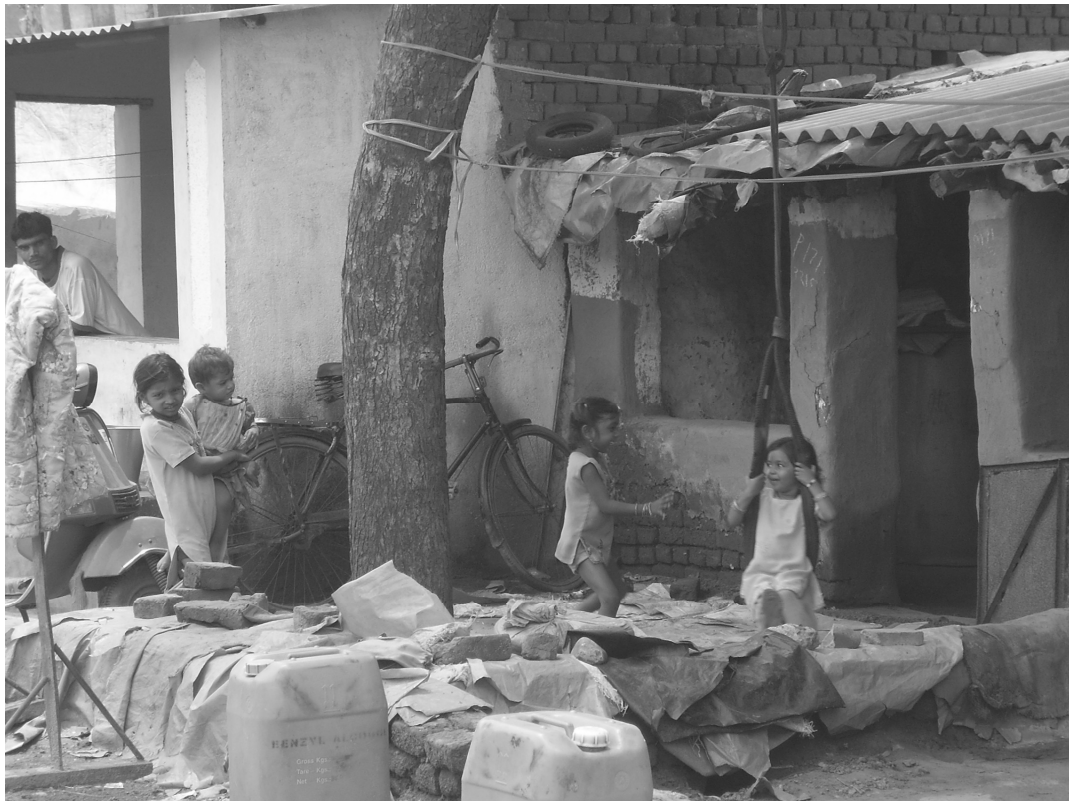


Figure 23: Children Playing, Adult Male Playmate (Presumably Father) Has Withdrawn to a Neighboring Structure

The participants of this study were mothers and grandmothers of infants from rural Gujarat and Delhi in India. They made a number of statements on other members of the family and other potential caregivers of the child. For example, fathers were mentioned fairly frequently. The urban mothers' answers about the father's role seem to indicate an existing or an aspired egalitarian organization of family roles. Both generations of rural women hold a more traditional role of the father in the family as breadwinner and playmate for the child. It would be enlightening to study an older generation of urban women who could give insight into the question whether the perception of the father in urban families has changed recently, though considering the similarities between urban mothers and grandmothers in other respects, this does not seem likely. Additionally, it would be interesting to see which perceptions the fathers themselves have of their role towards the child (cf. Roopnarine & Suppal, 2000). To include the men who play a part in the child's life into research, though

certainly desirable, may be a difficult task, especially for a female researcher, particularly in rural areas. Gender segregation in daily chores and festivals is predominant. Unfortunately, men, at least in India, largely seem to disappear from the center of the scene when social research is aimed at them as interactional partners of children (N. Chaudhary, personal communication, 24 September 2006; cf. Figure 23).

Siblings and other children are mentioned but not very frequently. In rural Gujarat, besides women, it is mainly teenage girls who can be seen taking care of small children. These are often, but not always, aunts of the respective child. Some of them have dropped out of school and most of them are in a transitional phase in which they are waiting to be married – usually at the age of 15 or 16. However these girls do not appear as a separate category in the interviews as they may be related in different ways to the child and therefore probably fall mainly in the category of “other family members”. Additionally they usually take care of slightly older children than those this study is aimed at and may therefore only become relevant to the interviewed mothers and grandmothers later on. More research on these teenage caregivers could shed light on how their role is perceived by themselves, the other caregivers and the child as she grows older. There may be a concept that besides having time at their hands, they also need to practice for their own children who will usually be born within two years of their marriage. It will be a transition for the child when her caregiver actually does get married and leaves the village.

Another category of caregiver who is not much researched upon, are the non-relatives who form part of many Indian middle-class households as domestic helpers or maids. These helpers are usually perceived as a bad child-care alternative (cf. Results: The Grandparents and the Family Structure). However some mothers also perceive their maids as legitimate interactional partners of their children. How these persons perceive their own role remains completely unexplored and could be the topic of further research.

Outlook

This study helps to understand how culture is perpetuated. The caregivers' interact with their children in such a way as they perceive to be best for the children. Caregivers generally want their children to be competent, well adapted members of their society. The concept of what it means to be competent and well adapted is defined by the community they live in. However the cultural community does not exist in a void. On the contrary there is a variety of factors that are of influence, such as the means of subsistence, political systems, religious and societal traditions etc. The caregivers' ideas are shaped by what they experienced as members of their community and these experiences and ideas influence their interaction with the child. The child experiences the caregivers -both their behaviors and their ideas- from infancy onward and is put on a developmental pathway. These initial conditions will influence the trajectory of the child's future development if no major changes occur in her environment.

The developmental pathways that children follow may be as diverse as the cultural communities they live in. However, the task for studies such as this one, is to identify how aspects of the culture are related to psychological features. The inclusion of samples that are so far underrepresented in psychological research, particularly the rural Gujarati sample in this study, broadens the knowledge of the diversity of "normal" human development. In this study, diversity in socio-economic conditions was intended and sampled for. This sampling strategy makes statements on the relation between socio-economic and psychological factors possible. These relations are assumed to be valid for other samples in other regions of the world as well. Further studies with other samples could be conducted to validate this assumption.

The inclusion of mothers and grandmothers in this study sustained an indirect analysis of cultural change, or rather, as it turned out, stability in ideas on childrearing. The perceptions of other family members, including those of the children, should be taken into account in

further research. Observation of actual behavior could further the understanding, especially in case when the children are still very young and have no capability of self-report, yet.

References

- Abels, M. (2002). *Baby massage in rural Gujarat, India. Physical growth, motor development and caregivers' ethnotheories*. Unpublished masters' thesis, University of Osnabrueck.
- Abels, M., Chaudhary, N. & Yovsi, R. (2005). *Playing? What is that?* Paper presented at the VII Regional Congress of the International Association of Cross-Cultural Psychology "New Scenarios for Cultural Interactions" in San Sebastian, Spain. July 11-16, 2005.
- Abels, M., Keller, H., Mohite, P., Mankodi, H., Shastri, J., Bhargava, S., Jasrai, S. & Lakhani, A. (2005). Early Socialization Contexts and Social Experiences of Infants in Rural and Urban Gujarat, India. *Journal of Cross-Cultural Psychology*, 36(6), 717-738.
- Ainsworth, M. D. S. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore: The Johns Hopkins Press.
- Ainsworth, M. D. S. (1969). *Maternal Sensitivity Scales*. Baltimore: Mimeograph, JHU. [Online] Available: http://www.psychology.sunysb.edu/attachment/pdf/mda_sens_coop.pdf
- Anand, R. K. (1997). *The Penguin India Guide to Child Care*. New Delhi: Penguin Books India.
- Baldwin, A. L. (1955). *Behavior and development in childhood*. New York: Dryden Press.
- Baldwin, A. L. (1949). The effect of home environment on nursery school behavior. *Child Development*, 20(2), 49-61.
- Barton, R. (1985). Grooming site preference in primates and their functional implications. *International Journal of Primatology*, 6(5), 519-532.
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monograph, Part 2*, 4(1), 1-103.

- Beck, U. (1986). *Risikogesellschaft. Auf dem Weg in eine andere Moderne* [Risk society. Towards a different modernity]. Frankfurt: Suhrkamp.
- Becker, W. C. (1971). Consequences of different kinds of parental discipline. *Review of child development research*, 1, 169-208.
- Berry, J. W. (1989). Imposed etics – emics- derived etics: The operationalization of a a compelling idea. *International Journal of Psychology*, 24, 721-735.
- Berry, J. W., Poortinga, Y. H., Segall, M. H. & Dasen, P. R. (1992). *Cross-cultural psychology: Research and applications*. Cambridge: Cambridge University Press.
- Betz, J. (1997). Gesellschaftliche Strukturen. [*Societal structures*.] In: Bundeszentrale für politische Bildung (BpB) [The Federal Agency for Civic Education] (Ed.) *Indien. Informationen zur politischen Bildung Nr. 257/1997*. [India. Information for civic education No. 257/1997.] pp. 13-27.
- Blaxter, L., Hughes, C. & Tight, M. (1990). *How to research*. New Delhi: Viva Books Private Ltd.
- Boccia, M. L. (1989). Comparison of the physical characteristics of grooming in two species of macaques (*Macaca nemestrina* and *M. radiata*). *Journal of comparative psychology*, 103(2), 177-183.
- Bond, M. H. (1994). *Beyond the Chinese face: insights from psychology*. Hong Kong: Oxford University Press.
- Bornstein, M. H. & Cote, L. R. (2001). Mother-infant interaction and acculturation: I. Behavioural comparisons in Japanese American and South American families. *International Journal of Behavioral Development*, 25(6), 549-563.
- Bornstein, M. H., Maital, S. L., Tal, J. & Baras, R. (1995). Mother and Infant Activity and Interaction in Israel and in the United States: A Comparative Study. *International Journal of Behavioral Development*, 18(1), 63-82.

- Bowlby, J. (1951). Maternal care and mental health. *Bulletin of the World Health Organization*, 3, 355-533.
- Bowlby, J. (1953). *Child care and the growth of love*. Hammondsworth: Penguin Books.
- Bowlby, J. (1969/78). *Attachment and loss, Vol. 1.: Attachment*. Hammondsworth: Penguin Books.
- Bronfenbrenner, U. (1979). *The ecology of human development. Experiments by nature and design*. Cambridge, Massachusetts: Harvard University Press.
- Bruesseler, R. (1992). *Industrialisierung und Regionalplanung in einem Entwicklungsland – das Beispiel des indischen Bundesstaates Gujarat*. [Industrialization and regional planning in a developing country- the example of the Indian federal state Gujarat.] In: F. Ahnert, H. Breuer, D. Havlik, J. Schultz, F. Stang und R. Zschocke (Eds.) Aachener Geographische Arbeiten, Heft 25. [Aachen Geographic Papers, Vol. 25.] Aachen: Geographisches Institut der RWTH Aachen im Selbstverlag.
- Bullock, M. & Russell, J. A. (1986). Concepts of emotion in developmental psychology. In C. E. Izard & P. B. Read (Eds.), *Measuring emotions in infants and children, Volume II* (pp. 203-237). Cambridge: Cambridge University Press.
- Carton, J. S. & Carton, E. E. R. (1998). Nonverbal maternal warmth and children's locus of control of reinforcement. *Journal of Nonverbal Behavior*, 22(1), 77-86.
- Census of India: C Series (2001). C-8: Educational level by age and sex for population age 7 and above. Retrieved 7 May, 2006 from http://www.censusindia.net/results/C_Series/C9_India.zip
- Census of India: Delhi (1991). Retrieved 17 September, 2005 from <http://www.censusindia.net/data/del.pdf>
- Census of India: Delhi (2001). Retrieved 17 September, 2005 from <http://www.censusindia.net/profiles/del.html>

- Census of India: Distribution of workers by category of workers (2001). Retrieved 17 September 2005 from http://www.censusindia.net/t_00_008.html
- Census of India: Gujarat (1991). Retrieved 8 September, 2005 from <http://www.censusindia.net/data/guj.pdf>
- Census of India: Gujarat (2001). Retrieved 8 September, 2005 from <http://www.censusindia.net/profiles/guj.html>
- Census of India: Literate population and literacy rate (2001). Retrieved 17 September 2005 from http://www.censusindia.net/t_00_006.html
- Census of India: rural-urban distribution of population (2001). Retrieved 8 September, 2005 from <http://www.censusindia.net/results/rudist.html>
- Chaudhary, N. (1996). *Family interaction patterns and language development in infancy*. Unpublished doctoral dissertation, Lady Irwin College, University of Delhi, Delhi.
- Chaudhary, N. (2004). *Listening to culture: Constructing reality from everyday day talk*. New Delhi: Sage.
- Chaudhary, N. & Kapoor, S. (2004). *Narratives of Interdependence*. Paper presented at the XVII Congress of the International Association for Cross-Cultural Psychology in Xi'an, China, 2-6 August, 2004.
- Chaudhry, M. (1990). Role of the social and cultural factors in human fertility in India. *Population and environment: a journal of interdisciplinary studies*, 12(2), 117-137.
- Chen, X, Rubin, K. H. & Liu, M (2003). Compliance in Chinese and Canadian toddlers: A cross-cultural study. *International Journal of Behavioral Development*, 27(5), 428-436.
- Clarke-Stewart, K. A. (1974). Interactions between mothers and their young children: characteristics and consequences. *Monographs of the Society for Research in Child Development*, No. 153, 38 (6-7).
- Cooper, M. A. & Bernstein, I. S. (2000). Social grooming in Assamese Macaques (*Macaca assamensis*). *American Journal of Primatology*, 50, 77-85.

- Cruttenden, A. (1994). Phonetic and prosodic aspects of Baby Talk. In C. Gallaway & B. Richards (Eds.), *Input and interaction in language acquisition* (pp. 135-152). New York: Cambridge University Press.
- Demuth, C., Keller, H., Lamm, B., Abels, M., Lo, W.; Su, Y. & Wang, Y. (2005). *Cultural Models of the Self in Verbal Mother-Infant-Interactions*. Poster presented at the 1. Berlin Method Workshop (June, 2005)
- DePaulo, B. M. & Bonvillian, J. D. (1978). The effect on language development of the special characteristics of speech addressed to children. *Journal of Psycholinguistic Research*, 7(3), 189-211.
- DePaulo, B. M. & Coleman, L. M. (1981). Evidence for the specialness of the "baby talk" register. *Language and Speech*, 24(3), 223-231
- Deshpande, P. G. (1974). *Gujarati-English Dictionary*. New Delhi: University Book Production Board, Gujarat State
- DeWolff, M. S. & VanIJzendoorn, M. H. (1997). Sensitivity and Attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, 68(4), 571-591.
- Dhawa, N., Roseman, I. J., Naidu, R. K., Thapa, K. & Rettek, S. I. (1995). Self-concepts across two cultures: India and the United States. *Journal of Cross-Cultural Psychology*, 26(6), 606-621.
- Diamond, A., Churchland, A., Cruess, L. & Kirkham, N. Z. (1999). Early developments in the ability to understand the relation between stimulus and reward. *Developmental Psychology*, 35(6), 1507-1517.
- Dunbar, R. I. M. (1996). *Grooming, gossip and the evolution of language*. London: faber and faber.
- Dunbar, R. I. M. (2004). Gossip in Evolutionary Perspective. *Review of General Psychology*, 8 (2), 100-110.

- Dwyer, R. (1999). *Gujarati. A Complete Course for Beginners*. Teach Yourself Series. London: Hodder & Stoughton.
- Ekman, P. & Friesen, W. V. (1978). *Facial action coding system: A technique for the measurement of facial movement*. Palo Alto, California: Consulting Psychologists Press.
- Ekman, P. & Friesen, W. V. (1982). Felt, false, and miserable smiles. *Journal of Nonverbal Behavior*, 6(4), 238-252.
- Fantz, R.L. (1961). The Origin of Form Perception, *Scientific American*, 204, 66-72.
- Fernald, A. & Simon, T. (1984). Expanded intonation contours in mothers' speech to newborns. *Developmental psychology*, 20, 104-113.
- Ferstl, E. (2004). *Die kleine LebensKunst*. [Small art of living.] Münster: Coppenrath.
- Field, T. (2003). *Touch*. Cambridge, MA, US: MIT Press.
- Franco, F., Fogel, A., Messinger, D. S. & Frazier, C. A. (1996). Cultural differences in physical contact between Hispanic and Anglo mother-infant dyads living in the United States. *Early Development & Parenting*, 5(3), 119-127.
- Frodi, A. N. & Lamb, M. E. (1978). Sex differences in responsiveness to infants: A developmental study of psychophysiological and behavioral responses. *Child development*, Vol 49(4), 1182-1188.
- Frodi, A. N., Lamb, M. E., Leavitt, L. A., Donovan, W. L., Neff, C. & Sherry, D. (1978). Fathers' and mothers' responses to the faces and cries of normal and premature infants. *Developmental psychology*, 14(5), 190-198.
- Ganju, S., Biju, U. & Lakhani, A. (2004). *Crossing the line of control: Rajput women's voyage to empowerment. Deepak Foundation's Experience of a decade*. Baroda: Deepak Foundation.
- Ganju, S., Mehta, A., Lakhani, A., Buch, B. & Thampi, J. (2003). *Linking comprehensive gender education and reproductive health program with skill development: A success model with adolescents*. Baroda: Deepak Foundation.

- Goldberg, S. (1972). Infant care and growth in urban Zambia. *Human Development*, 15, 77-89.
- Goodnow, J. J. (1985) Change and Variation in Ideas about Childhood and Parenting. In: I. E. Sigel (Ed.). *Parental Belief Systems: The Psychological Consequences for Children*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Goodnow, J. J. & Collins, W. A. (1990). *Development according to parents: The nature, sources and consequences of parents' ideas*. Hillsdale, NJ: Erlbaum.
- Goosen, C. (1980). *On grooming in old world monkeys*. Delft: W. D. Meinema B.V.
- Greenfield, P. M. (1999). Historical change and cognitive change: a two-decade follow-up study in Zinacantan, a Maya community in Chiapas, Mexico. *Mind, Culture, & Activity*, 6(2), 92-108.
- Greenfield, P. M., Keller, H., Fuligni, A. & Maynard, A. (2003). Cultural pathways through universal development. *Annual Review of Psychology*, 54(1), 461-490.
- Greenfield, P. M., Maynard, A. E. & Childs, C. P. (2000). History, culture, learning, and development. *Cross-cultural Research*, 34(4), 351-374.
- Han, J. J., Leichtman, M. D., & Wang, Q. (1998). Autobiographical memory in Korean, Chinese and American children. *Developmental Psychology*, 34, 701 – 713.
- Harkness, S. & Super, C. M. (1996). Introduction. In: S. Harkness & C. M. Super (Eds.) *Parents' Cultural Belief Systems. Their Origins, Expressions, and Consequences* (pp. 1-23). New York: The Guilford Press.
- Harlow, H. F. (1958). The nature of love. *American Psychologist*, 13, 673-685.
- Hayward, D. L. (2004). The emergence of the collective and the individual self: A cross-cultural study of Japanese and American children. *Dissertation Abstracts International: Section B: The Sciences & Engineering*, 64(8-B), 4039.
- Hetherington, M., & Frankie, G. (1967). Effects of parental dominance, warmth, and conflict on imitation in children. *Journal of Personality and Social Psychology*, 6 (2), 119-125.

- Hertenstein, M. J. (2002). Touch: Its communicative functions in infancy. *Human Development*, 45, 70-94.
- Hewlett, B. S. & Lamb, M. E. (2002). Integrating evolution, culture and developmental psychology: explaining caregiver–infant proximity and responsiveness in central Africa and the USA. In H. Keller, Y. H. Poortinga & A. Schölmerich (Eds.), *Between culture and biology* (pp. 241-269). Cambridge: Cambridge University Press.
- Hewlett, B. S., Lamb, M. E., Shannon, D., Leyendecker, B. & Schölmerich, A. (1998). Culture and early infancy among central African foragers and farmers. *Developmental Psychology*, 34(4), 653-661.
- Hoff, E. (2003). The specificity of environmental influence: Socioeconomic status affects early vocabulary development via maternal speech. *Child Development*, 74(5), 1368-1378.
- Hoff-Ginsberg, E. & Tardif, T. (1995). Socioeconomic Status and Parenting. In: M. H. Bornstein (Ed.) *Handbook of Parenting. Volume 2: Biology and Ecology of Parenting*. Mahwah, NJ, USA: Lawrence Erlbaum Associates.
- Holroyd, E. & Katie, F. K. L. (1997). 'Doing the month': An exploration of postpartum practices in Chinese women. *Health Care for Women International* 18(3), 301-314.
- Horst, E. (1992). *Friedrich der Staufer: eine Biographie*. [Frederic of Staufen: a biography]. Hildesheim: Claassen.
- Kagitcibasi, C. (2002). A model of family change in cultural context. In W. J. Lonner, D. L. Dinnel, S. A. Hayes, & D. N. Sattler (Eds.), *Online Readings in Psychology and Culture* (Unit 13, Chapter 1) [On-line]. Center for Cross-Cultural Research, Western Washington University, Bellingham, Washington USA. Available: <http://www.wvu.edu/~culture>.
- Kagitcibasi, C. (2005). Autonomy and relatedness in cultural context. *Journal of Cross-Cultural Psychology*, 36(4), 403-422.

- Kakar, S. (1981) *The Inner World: A Psycho-analytic Study of Childhood and Society in India*. (2nd edition) New Delhi: Oxford University Press.
- Kapoor, S., Hughes, P. C., Baldwin, J. R. & Blue, J. (2003). The relationship of individualism-collectivism and self-construals to communication styles in India and the United States. *International Journal of Intercultural Relations*, 27, 683-700
- Keller, H. (2002). The role of development for understanding the biological basis of cultural learning. In H. Keller, Y. H. Poortinga & A. Schölmerich (Eds.), *Between culture and biology* (pp. 215-240). Cambridge: Cambridge University Press.
- Keller, H., Abels, M., Borke, J., Lamm, B., Lo, W., Su, Y. & Wang, Y. (2006). Socialization Environments of Chinese and Euro-American Middle-Class Babies: Parenting Behaviors, Verbal discourses and Ethnotheories. Manuscript submitted for publication.
- Keller, H., Borke, J., Staufenbiel, T., Yovsi, R., Abels, M., Papaligoura, Z., Jensen, H., Lohaus, A., Lo, W. & Su, Y. (2006) Distal and proximal parenting as two alternative parenting strategies during infant's early months of life. A cross cultural study. (submitted)
- Keller, H. & Eckensberger, L. H. (1998). Kultur und Entwicklung. [Culture and development] In H. Keller (Ed.), *Lehrbuch Entwicklungspsychologie [Textbook for developmental psychology]* (pp. 57-96). Bern: Huber Verlag.
- Keller, H., & Gauda, G. (1987). Eye contact in the first months of life and its developmental consequences. In H. Rauh & H. C. Steinhausen (Eds.), *Psychobiology and early development* (pp. 129-143). Amsterdam: Elsevier.
- Keller, H., Kaertner, J., Borke, J., Yovsi, R. D. & Kleis, A. (2005). Parenting styles and the development of the categorical self. A longitudinal study on mirror self-recognition in Cameroonian Nso and German families. *International Journal of Behavioral Development*, in press.

- Keller, H., Lamm, B., Abels, M., Yovsi, R., Borke, J., Jensen, H., Papaligoura, Z., Holub, C., Lo, W., Tomiyama, A. J., Su, Y., Wang, Y., & Chaudhary, N. (2006). Sociocultural Orientations, Socialization Goals, Beliefs about Parenting and Child Development. A Multi Cultural Analysis. *Journal of Cross-Cultural Psychology*, 37(2), 155-173.
- Keller, H., Lohaus, A., Kuensemueller, P., Abels, M., Yovsi, R. D., Voelker, S., Jensen, H., Papaligoura, Z., Rosabal-Coto, M., Kulks, D., & Mohite, P. (2004). The bio-culture of parenting: Evidence from five cultural communities. *Parenting: Science and Practice*, 4(1), 25-50.
- Keller, H., Lohaus, A., Völker, S., Elben, C & Ball, J. (2003). Warmth and contingency and their relationship to maternal attitudes toward parenting. *The Journal of Genetic Psychology*, 164(3), 275–292.
- Keller, H., Voelker, S., & Yovsi, R. D. (2005). Conceptions of parenting in different cultural communities. The case of West African Nso and Northern German women. *Social Development*, 14(1), 158-180.
- Keller, H., Yovsi, R. D., Borke, J., Kaertner, J., Jensen, H. & Papaligoura, Z. (2004). Developmental consequences of early parenting experiences: self-regulation and self-recognition in three cultural communities. *Child Development*, 75, 1745-1760.
- Keller, H., Yovsi, R. D., & Voelker, S. (2002). The reflection of motor stimulation in ethnotheories about good parenting: The case of Cameroonian Nso and German women. *Journal of Cross-Cultural Psychology*, 33 (4), 398 - 414.
- Kochanska, G. (1997). Mutually responsive orientation between mothers and their young children: implications for early socialization. *Child Development*, 68 (1), 94-112.
- Kochanska, G. (2002). Mutually responsive orientation between mothers and their young children: A context for the early development of conscience. *Current Directions in Psychological Science*, 11(6), 191-196.

- Kuebli, J., Reddy, R. & Gibbons, J. L. (1998). Perceptions of others in self-descriptions of children and adolescents in India. *Cross-cultural research: the journal of comparative social science*, 32(3), 217-240.
- Kuhl, J. (2001). *Motivation und Persönlichkeit: Interaktionen psychischer Systeme*. [Personality and motivation: Interactions of psychic systems.] Göttingen: Hogrefe.
- Kumar, S. (2004). *A tale of three cities* [On-line]. Available: <http://www.india-seminar.com/2004/534/534%20sanjay%20kumar.htm>
- Kurtz, S. (1992). All the mothers are one: Hindu India and the cultural reshaping of psychoanalysis. New York: Columbia University Press.
- Lakhani, A., Ganju, S. & Mahale, P. (1997). *Reproductive and child health status in the Nandesari area*. Baroda: Deepak Medical Foundation/Deepak Charitable Trust
- Lalljee, M., & Angelova, R. (1995). Person description in India, Britain, and Bulgaria. *Journal of Cross-Cultural Psychology*, 26, 645-657.
- Lamb, M. E. (1977). Father-infant and mother-infant interaction in the first year of life. *Child Development*, 46, 167-181.
- Lay, C., Fairlie, P., Jackson, S., Ricci, T., Eisenberg, J., Sato, T., Teeaar, A., & Melamud, A. (1998). Domain-specific allocentrism-idiocentrism. *Journal of Cross-Cultural Psychology*, 29(3), 434-460.
- Lay, K.-L., Waters, E. & Park, K. A. (1989). Maternal Responsiveness and Child Compliance: The role of mood as a mediator. *Child Development*, 60, 1405-1411.
- Leung, S. S. K., Arthur, D. & Martinson, I. M. (2005). Perceived Stress and Support of the Chinese Postpartum Ritual "Doing the Month". *Health Care for Women International*, 26(3), 212-224.
- LeVine, R. A. (1974). Parental goals: A cross-cultural view. *Teachers College Record*, 76, 226-239.

- Lewando Hundt, G., Beckerleg, S., Kassem, F., Abu Jafar, A. M., Belamker, I., Abu Saad, K. & Shoham-Vardi, I. (2000). Women's health custom made: building on the 40 days postpartum for Arab women. *Health care for women international*, 21, 529-542.
- Leyendecker, B., Lamb, M. E., Schölmerich, A. & Fracasso, M. P. (1995). The social worlds of 8- and 12-month-old Infants: Early experiences in two subcultural context. *Social Development*, 4(2), 194-208.
- Lohaus, A., Keller, H., Ball, J., Voelker, S., Elben, C. (2004). Maternal sensitivity in interactions with three- and 12-month-old infants: Stability, structural composition, and developmental consequences. *Infant and Child Development*, 13, 235–252.
- Lorenz, K. (1943). Die angeborenen Formen möglicher Erfahrung [The innate forms of possible experience]. *Zeitschrift für Tierpsychologie [Journal of animal psychology]*, 5, 235-409.
- Maccoby, E. E., & Martin, J. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th ed., pp. 1-101). New York: Wiley.
- MacDonald, K. (1992). Warmth as a Developmental Construct: An evolutionary analysis. *Child Development*, 63, 753-773.
- MacDonald, K. (1993). Parent-child play: An evolutionary perspective. In A. D. Pellegriny (Series Ed.) & K. MacDonald (Vol. Ed.), *SUNY series, children's play in society. Parent-child play: Descriptions and implications*. Albany: State University of New York Press.
- Main, M., & Goldwyn, R. (1984). Predicting rejection of her infant from mother's representation of her own experience: Implications for the abused-abusing intergenerational cycle. *Child Abuse & Neglect*, 8, 203-217.

- Mayr, E. (1974). Behavior program and evolutionary strategies. Natural selection sometimes favors a genetically “closed” behavior program, sometimes an “open” one. *American Scientist*, 62(6), 650-659.
- Mejía-Arauz, R., Rogoff, B., & Paradise, R. (2005). Cultural variation in children’s observation during a demonstration. *International Journal of Behavioral Development*, 29(4), 282-291.
- Messinger, D., Dondi, M., Nelson Goens, G. C., Beghi, A., Fogel, A. & Simion, F. (2002). How sleeping neonates smile. *Developmental Science*, 5(1), 48-54.
- Minturn, L. & Lambert, W. W. (1964). *Mothers of six cultures. Antecedents of Child Rearing*. Oxford, England: Wiley.
- Mize, J. & Pettit, G. S. (1997). Mothers’ social coaching, mother-child relationship style, and children’s peer competence: is the medium the message? *Child Development*, 68(2), 312-332.
- Morelli, G. A., Rogoff, B., Oppenheim, D. & Goldsmith, D. (1992). Cultural variation in infants’ sleeping arrangements: Questions of independence. *Developmental Psychology*, 28(4), 604-613.
- Munroe, R. H. & Munroe, R. L. (1971). Household density and infant care in an East African society. *Journal of Social Psychology*, 83(1), 3-13.
- Munroe, R. H. & Munroe, R. L. (1980). Infant experience and childhood affect among the Logoli: A longitudinal study. *Ethos*, 8(4), 295-315.
- Nakamichi, M. (2003). Age-related differences in social grooming among adult female Japanese monkeys (*Macaca fuscata*). *Primates*, 44, 239-246.
- Nichols, T., Sugur, N., & Tasiran, A. C. (2003). Signs of change in Turkey’s working class: workers’ age-related perceptions in the modern manufacturing sector. *British Journal of Sociology*, 54(4), 527-545.

- Opie, A. (1992). Qualitative research, appropriation of the 'other' and empowerment. *Feminist Review*, 40(Spring), 52-69.
- Papousek, H. & Papousek, M. (1987). Intuitive parenting: A dialectic counterpart to the infant's integrative competence. In J. D. Osofsky (Ed.), *Handbook of infant development* (pp. 669 - 720). New York: Wiley.
- Papousek, H. & Papousek, M. (2002). Intuitive parenting. In M. H. Bornstein (Ed.), *Handbook of parenting. Volume 2: Biology and ecology of parenting* (2nd edition, pp. 183-203). Mahwah, New Jersey: Lawrence Erlbaum.
- Papousek, H., Papousek, M. & Sanford Koester, L. (1986). Sharing emotionality and sharing knowledge: a microanalytic approach to parent-infant communication. In C. E. Izard & P. B. Read (Eds.), *Measuring emotions in infants and children, Volume II* (pp. 93-123). Cambridge: Cambridge University Press.
- Papousek, M., & Papousek, H. (1991). Preverbal vocal communication from zero to one: Preparing the ground for language acquisition. In M. E. Lamb & H. Keller (Eds.), *Perspectives on infant development: Contributions from German-speaking countries* (pp. 299-328). Hillsdale, New Jersey: Erlbaum.
- Parpal, M. & Maccoby, E. E. (1985). Maternal Responsiveness and Subsequent Child Compliance. *Child Development*, 56, 1326-1334.
- Pillsbury, B. L. (1978). 'Doing the month': confinement and convalescence of Chinese women after childbirth. *Social science and medicine*, 12(1B), 11-22.
- Portmann, A. (1956). *Zoologie und das neue Bild des Menschen* (2nd revised edition). [Zoology and the new picture of the human being.] Hamburg: Rowohlt.
- Poulson, C. L., Kyparissos, N., Andreatos, M., Kymissis, E. & Parnes, M. (2002). Generalized imitation within three response classes in typical developing infants. *Journal of Experimental Child Psychology*, 81(3), 341-357.

- Prechtl, H. F. R. (1984). Continuity and change in early neural development. In H. F. R. Prechtl (Ed.), *Continuity of neural functions from prenatal to postnatal life*. London: Spastics International Medical Publications.
- Qayum, S. & Ray, R. (2003). Grappling with modernity: India's respectable classes and the culture of domestic servitude. *Ethnography*, 4(4), 520-555.
- Rajecki, D. W., Lamb, M. E. & Obsmacher, P. (1978). Toward a general theory of infantile attachment: a comparative review of aspects of the social bond. *Behavioral and brain sciences*, 1, 417-464.
- Ratner, N. B. (1984). Patterns of vowel modification in mother-child speech. *Journal of child language*, 11, 557-578.
- Richman, A. L., Miller, P. M. & LeVine, R. A. (1992). Cultural and educational variations in maternal responsiveness. *Developmental Psychology* 28(4), 614-621.
- Ricks, M. (1985). The social transmission of parental behavior: Attachment across generations. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. *Monograph of the Society for Research on Child Development*, 50, (Serial No. 209), 211-227.
- Ringler, N. M. (1981) The development of language and how adults talk to children. *Infant Mental Health Journal*, 2(2), 71-83.
- Roberts, W. L. (1986). Nonlinear Models of Development: An Example from the Socialization of Competence *Child Development*, 57, 1166-1178.
- Rogoff, B., Mistry, J., Göncü, A. & Mosier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development*, 58(8), 1-174.
- Rogoff, B., Paradise, R., Mejía Arauz, R., Correa-Chávez, M. & Angelillo, C. (2003). Firsthand learning through intent participation. *Annual Review of Psychology*, 54, 175-203.

- Rohner, R. P. (1975). *They love me, they love me not. A worldwide study of the effects of parental acceptance and rejection*. Human Relations Area Files.
- Rohner, R. P. (1986). *The warmth dimension. Foundations of parental acceptance-rejection theory*. Beverly Hills, CA: Sage.
- Rohner, R. P. (1994). Patterns of parenting: The warmth dimension in cross-cultural perspective. In W. J. Lonner & Malpass (Eds.), *Readings in Psychology and Culture* (pp.113-120). Needham Heights, MA: Allyn and Bacon, Inc.
- Rohner, R. P. & Chaki-Sircar, M. (1988). *Women and children in a Bengali village*. Hanover and London: University Press of New England.
- Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2003). Cross-national perspectives on parental acceptance-rejection theory. *Marriage and Family Review*, 35, 85-105.
- Roopnarine, J. L. & Suppal, P. (2000). Kakar's psychoanalytic interpretation of Indian childhood: The need to emphasize the father and multiple caregivers in the socialization equation. *International Journal of Group Tensions*, 29(3-4), 349-370.
- Rothbaum, F., Morelli, G., Pott, M. & Liu-Constant, Y. (2000). Immigrant-Chinese and Euro-American parents' physical closeness with young children: Themes of family relatedness. *Journal of Family Psychology*, 14(3), 334-348.
- Rothbaum, F., Pott, M., Azuma, H., Miyake, K. & Weisz, J. (2000). The development of close relationships in Japan and the United States: Paths of symbiotic harmony and generative tension. *Child Development*, 71(5), 1121-1142.
- Saraswathi, T. S., & Pai, S. (1997). Socialization in the Indian context. In H. S. R. Kao, & D. Sinha (Eds.), *Asian perspectives on psychology* (pp. 74-92). New Delhi: Sage.
- Schiefenhövel, W. (1997). Universals in interpersonal interactions. In U. Segerstråle & P. Molnár (Eds.), *Nonverbal communication: where nature meets culture* (pp. 61-85). Mahwah, NJ: Lawrence Erlbaum.

- Schieffelin, B. B. & Ochs. E. (1986). Language socialization. *Annual Review of Anthropology*, 15, 163-191.
- Schmitt, M. L. (2001). Effects of vicarious reward on infant observational learning: A deferred imitation study. *Dissertation Abstracts International: Section B: The Sciences & Engineering*, 62(4-B), 2045.
- Schore, A. N. (2002). The neurobiology of attachment and early personality organization. *Journal of Prenatal & Perinatal Psychology & Health*, 16(3), 249-263.
- Schweizer, G. (1995). *Indien. Ein Kontinent im Umbruch*. [India. A continent in Stuttgart: Klett-Cotta.
- Schwerin, K. G. v. (1996). *Indien*. [India.] Beck'sche Reihe; 820: Länder. München: C. H. Beck'sche Verlagbuchhandlung (Oscar Beck). (2nd revised edition)
- Seiffge-Krenke, I. (2001). Väter und Söhne, Väter und Töchter. [Fathers and sons, fathers and daughters.] *Forum der Psychoanalyse*, 17, 51-63.
- Seymour, S. (1993). Childcare in India: An examination of the "household size/infant indulgence" hypothesis. *Cross-cultural research: the journal of comparative social science*, 35(1), 3-22.
- Seymour, S. (1994). Women, marriage and educational change in Bhubaneswar, India: A twenty-five year perspective. In C. C. Mukhopadhyay & S. Seymour (Eds.), *Women, education, and family structure in India* (pp. 165-183). Boulder, CO: Westview.
- Seymour, S. (1999). *Women, Family, and Child Care in India: A World in Transition*. Cambridge, Cambridge University Press.
- Shah, A. M. (1998a). Changes in the Indian family: An examination of some assumptions. In A. M. Shah, *The family in India: Critical essays* (pp.52-63). New Delhi: Orient Longman Limited. (Reprinted from *Economic and Political Weekly*, III(1-2), Annual Number, 1968, 127-134.)

- Shah, A. M. (1998b). Is the joint household disintegrating? In A. M. Shah, *The family in India: Critical essays* (pp.64-80). New Delhi: Orient Longman Limited. (Reprinted from *Economic and Political Weekly*, 31(9), March 2, 1996, 537-542, with a few revisions.)
- Sharma, D., & LeVine, R. A. (1998). Child care in India: A comparative developmental view of infant social environments. In D. Sharma & K. W. Fisher (Eds.), *New Directions for Child Development*, 81: Socioemotional development across cultures (pp. 45-68). San Francisco: Jossey-Bass.
- Sigel, I. E., McGillicuddy-DeLisi, A. V. & Goodnow, J. J. (1992a) (ed. book). *Parental Belief Systems: The Psychological Consequences for Children* (Second Edition). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Sigel, I. E., McGillicuddy-DeLisi, A. V. & Goodnow, J. J. (1992b). Introduction to the Second Edition. In: I. E. Sigel, Ann V. McGillicuddy-DeLisi, Jacqueline J. Goodnow (Eds.). *Parental Belief Systems: The Psychological Consequences for Children* (Second Edition, pp. xiii-xx). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Sigel, I. E. (1985) (ed. book) *Parental Belief Systems: The Psychological Consequences for Children*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Sigel, I. E. (1992). The belief-behavior connection: A resolvable dilemma? In: I. E. Sigel, Ann V. McGillicuddy-DeLisi, Jacqueline J. Goodnow (Eds.). *Parental Belief Systems: The Psychological Consequences for Children* (Second Edition, pp. 433-456). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Singh, R. L. (1971). Gujarat Region. In: R. L. Singh (Ed.) *India. A regional geography*. Varanasi: National Geographic Society of India. pp. 879- 906.
- Sinha, J. B. P., Sinha, T. N., Verma, J. & Sinha, R. B. N. (2001) Collectivism coexisting with individualism: an Indian scenario. *Asian Journal of Social Psychology*, 4, 133-145.
- Sparks, J. (1967) Allogrooming in Primates: a review. In D. J. Morris (Ed.), *Primate ethology*, pp. 148-175. London: Weidenfeld.

- Spiro, A. M. (2005). Najar or bhut – evil eye or ghost affliction: Gujarati views about illness causation. *Anthropology & Medicine*, 12(1), 61-73.
- Spitz, R. A. (1949). The role of ecological factors in emotional development in infancy. *Child Development*, 20(3), 145-155.
- Super, C. M. & Harkness, S. (1986). The developmental niche: A conceptualization at the interface of child and culture. *International Journal of Behavioral Development*, 9, 545-569.
- Super, C. M., & Harkness, S. (2002). Culture structures the environment for development. *Human Development*, 45(4), 270-274.
- Stack, D. M. (2001). The salience of touch and physical contact during infancy: Unraveling some of the mysteries of the somesthetic sense. In G. Bremner & A. Fogel (Eds.), *Blackwell Handbook of Infant Development* (pp. 351-378). Malden, MA, US: Blackwell Publishers.
- Satistisches Bundesamt (ed.) (2003). Datenreport 2002: Zahlen und Fakten über die Bundesrepublik Deutschland [Data report 2002: Numbers and facts on the Federal Republic of Germany] (2nd rev ed). *Schriftenreihe*, 376.
- Satistisches Bundesamt (ed.) (2005). Leben und Arbeiten in Deutschland-Mikrozensus 2004 [Living and working in Germany- microcensus 2004].
- Stayton, D. J., Hogan, R. & Ainsworth, M. D. S. (1971). Infant obedience and maternal behavior: the origins of socialization reconsidered. *Child Development*, 42, 1057-1069.
- Super, C. M. (1976). Environmental effects on motor development: The case of African infant precocity. *Developmental Medicine and Child Neurology*, 18(5), 561-567.
- Suppal, P. G., Roopnarine, J. L., Buesig, T., & Bennett, A. (1996). Ideological beliefs about family practices: Contemporary perspectives among north Indian families. *International Journal of Psychology*, 31(1), 29-37.

- Tracy, R. L. & Ainsworth, M. D. S. (1981). Maternal affectionate behavior and infant-mother attachment patterns. *Child Development*, 52, 3141-1443.
- Trawick, M. (1990) *Notes of love in a Tamil family*. Berkeley: University of California Press.
- Tronick, E. Z. (1995). Touch in mother-infant interaction. In T. Field (Ed.), *Touch in early development* (pp. 53-65). Hillsdale, NJ: Lawrence Erlbaum.
- Ullrich, H. E. (1987). Marriage patterns among Havik Brahmins: A 20-year study of change. *Sex Roles*, 16(11/12), 615-635.
- US census (2000). People QuickFacts. Retrieved 20 April, 2006 from <http://quickfacts.census.gov/qfd/states/06/0644000.html>
- Van IJzendoorn, M. H. (1992). Intergenerational transmission of parenting: A review of studies in nonclinical populations. *Developmental Review*, 12, 76-99.
- Vaishnav, D. J. (1927). *The New English-Gujarati Dictionary*. Surat: Karsondas Narandas & Sons
- Verma, J. & Triandis, H. C. (1999). The measurement of collectivism in India. In W. J. Lonner & D. L. Dinnel (Eds.), *Merging past, present, and future in cross-cultural psychology: Selected papers from the Fourteenth International Congress of the International Association for Cross-Cultural Psychology* (pp. 256-265). Lisse, Netherlands: Swets & Zeitlinger.
- Voelker, S. (2002) *Frühe Interaktionsmuster zwischen Mutter und Kind: die Bedeutung von Wärme und Kontingenz*. [Early interactional patterns of mothers and children: the implications of warmth and contingency.] Hamburg: Kovac.
- Voelker, S., Keller, H., Lamm, B., Abels, M., Eickhorst, A., Borke, J. & Yovsi, R. D. (2002). *Components of parenting manual*. Unpublished manuscript, University of Osnabrück, Faculty of Human Sciences.

- Wang, Q. (2003). Emotion situation knowledge in American and Chinese pre-school children and adults. *Cognition and emotion*, 17(5), 725-746.
- Wang, Q. (2001). Culture effects on adult's earliest childhood recollection and self-description: Implications for the relation between memory and self. *Journal of Personality and Social Psychology*, 81(2), 220 - 233.
- Waters, E., Kondo-Ikemura, K., Posada, G. & Richters, J. E. (1991). Learning to love: Mechanisms and Milestones. In: M. R. Gunnar & L. A. Sroufe (Eds.) *Self Process and Development: The Minnesota Symposium on Child Development*, Vol. 23. (pp. 217-256) Hillsdale, NJ: Lawrence Earlbaum.
- Weisner, T. (2002). Ecocultural understanding of children's developmental pathways. *Human Development*, 45, 275-281.
- Weisner, T., Matheson, C. C. & Bernheimer, L. P. (1996). American cultural models of early influence on parental recognition of developmental delays: Is earlier always better than later? In: S. Harkness & C. M. Super (Eds.) *Parents' Cultural Belief Systems. Their Origins, Expressions, and Consequences* (pp. 496-532). New York: The Guilford Press.
- Wells, D. H. (2001). *Milestones: A road map to Indian middle class*. Available: <http://www.aliciapatterson.org/APF2001/Wells/Wells.html>
- Whiting, B. B. & Whiting, J. W. M. (1975). *Children of Six Cultures: A psycho-cultural analysis*. Cambridge: Harvard University Press.
- Whiting, J. W. M. (1961). Socialization process and personality. In F. I. K. Hsu (Ed.), *Psychological anthropology: Approaches to culture and personality* (pp. 355-399). Homewood, IL: Dorsey.
- Yovsi, R. D. (2003). *Ethnotheories about breastfeeding and mother infant interaction: the case of sedentary Nso farmers and nomadic Fulani pastorals with their infants 3 - 6 months of age in Mbven sub division of the Northwest province of Cameroon*. Münster: Lit.

Zeidner, M. (1983). "Kitchie-koo" in modern Hebrew: The sociology of Hebrew baby talk.
International Journal of the Sociology of Language, 41, 93-113.

APPENDIX A: FAMILY BACKGROUND & ACTIVITIES WITH THE CHILD-
QUESTIONNAIRE FOR THE RURAL SAMPLE

Background information (Mother)

Date:

Researcher:

Subject Code

General information

Is this your first child? ☐ Yes ☐ No

If no: Please indicate birth date and sex of all your children

Birth date	sex

Family background

Living conditions: Are you living in a:

	rented	belongs to in-laws	own
pucca house			
*apartment			
*raw house			
semi pucca house			
kuccha house			

How many rooms are in your house (except kitchen and bathroom)? _____

Do you have a bathroom?

☐ Yes ☐ No

What is your source of drinking water?

pipe borne water ☐

spring ☐

well ☐

flowing stream/river ☐

How far is that? _____

Who lives in your household?

Age	Gender	Relationship

How far do you live from the following persons (if they do not live in your household)?

6= in the same house, but different household

5= in the house next to mine or across the street

4= in the neighborhood

3= in the same city

2= in the area

1= far away

Father	Father's mother	Father's father	Mother's mother	Mother's father	Other relevant relatives (who?)	Friends
					1)	
					2)	
					3)	
					4)	
					5)	
					6)	

Child's parents

What is your marital status? ☐ Married ☐ Widowed Other: _____

since when? _____

If married: How did you get married? _____

Birth dates **Mother** _____ **Father** _____

Place of birth **Mother** _____ **Father** _____

Which caste do you belong to? _____

Highest educational achievement: **Father:** _____
 (or years of schooling)

Mother: _____

Parents' professions and occupations

Professions: **Mother** _____ **Father** _____

Are you working outside the house?

If yes: how many hours per day:

How many days per week:

Where are you working? / Who is your employer?

What kind of contract do you have?

(Permanent, temporary, ...)

Mother	Father

Job description:

Father: _____

Mother: _____

How much is the family income? _____

Families of origin

How many siblings do you have?

	Mother's		Father's	
	Date of birth	sex	Date of birth	sex
Sibling 1				
Sibling 2				
Sibling 3				
Sibling 4				
Sibling 5				
Sibling 6				

When were your parents born?

	Mother's	Father's
	Date of birth	Date of birth
Mother		
Father		

Pregnancy, birth and the first months

Was the pregnancy without complications? ☐ Yes ☐ No

if no: What kind of complications and when during pregnancy?

Where was the delivery? _____

Who attended the delivery? _____

How was the delivery? ☐ vaginal ☐ caesarean section ☐ other: _____

Did you attend a birth preparation class? ☐ Yes ☐ No

What kind of class: _____

Duration: _____

Health of the baby since birth? _____

How were the following behaviors of the baby during the first three months?

Feeding? _____

Crying? _____

Sleeping? _____

According to you, does the baby have an ☐ easy temperament or a ☐ difficult temperament?

Routines, activities with the child

How much time are you spending with the baby during a normal day? _____

Which activities do you like to do best with your child? _____

Is there anything that you do not like doing as much with your child? _____

How often do you/ does your baby see the following persons, what do they primarily do with the baby?

6= daily

5= once or twice a week

4= every two weeks

3= once a month

2= once or twice a year

1= rarely

	Father	Father's mother	Father's father	Mother's mother	Mother's father	Other relevant relatives (who?)	Friends
Mother						1) 2) 3) 4) 5) 6)	
Baby						1) 2) 3) 4) 5) 6)	
Primary activity						1) 2) 3) 4) 5) 6)	

Thank you!!

Possession checklist:

Family owns (mark; if yes, specify how many)			
electricity		Fields/land	
refrigerator		cows/buffalo	
music system		business (specify materials necessary for this business)	
TV			
cassette player			
Radio		other:	
magazines/ newspapers			
Fan		other:	
gas stove			
kerosene stove		other:	
Chullah			
four wheelers		other:	
three wheelers			
two wheelers		other:	
Bicycle			

APPENDIX B: PICTURE CARDS USED IN INTERVIEWS WITH RURAL GUJARATI CAREGIVERS



Figure B- 1: primary care- mother breastfeeding her baby



Figure B- 2: body contact



Figure B- 3: body stimulation



Figure B- 4: Face-to-face



Figure B- 5: object stimulation

APPENDIX C: INTERVIEW GUIDELINE ON EMOTIONAL WARMTH

Questions on warmth:

How should the family's warmth (love, closeness, affection) toward the baby be expressed?
By whom? (*Probe into different family members (mother's, grandmother's, aunts', father's and child caregivers' etc.) roles.*)

Card sorting task:

Please look at these cards (of the ethnotheories interview) again. Which ones express warmth/in which ones is warmth visible? Why? (Why not?) What do you see as the common element in the cards you chose? (*If the participant does not label the common element, please try to find similarities in the cards chosen and ask the participant whether she agrees to your observation of similarities. E. g.: "all the mothers in the photographs are looking at their child. Do you think that is a major aspect of expressing one's warmth towards an infant?"*)

Are there any circumstances under which it is not possible/acceptable/appropriate to express warmth towards a baby? What are those circumstances? Why is it not possible/acceptable/appropriate?

Are there specific people who should not express warmth towards a baby? Who? Why?

Can the expression of warmth be bad/harmful? (Evil eye?)

Integration into the family:

How is the child integrated into the family? What does one do to show the child that s/he is part of the family? How does the baby get a feeling of belonging together with the family? Who shows these behaviors? Are there differences in the way different do this?

Probing for behaviors:

How important are the following aspects and who should express them if they are important?

When are they shown? Do they express warmth? Why/ why not?

(*Body warmth:*)

- cuddling, hugging,
- caressing,
- co-sleeping,
- cloth swing

(Facial warmth:)

- smiling,
- affective sharing (baby is happy/excited etc. and mother shares that feeling), empathy (baby is sad/crying/fussing and mother feels moved, tries to console/calm the child)

(Vocal/verbal warmth:)

- baby talk (high pitch, short sentences, repetitive),
- praise (*probe*: should one praise in public? Is it ok for anybody to praise the child?)

Which of these three areas/aspects (body, facial, vocal) is most important to express warmth towards a child? Why?

Joint/nuclear family:

Do you think there are differences in the expression of warmth in nuclear and joint families?

For members of joint families:

What are the advantages of a large (joint) family for the expression of warmth?

What if the joint family splits up? Who takes on other people's responsibilities?

Are there advantages of living in a nuclear family for the expression of warmth?

For members of nuclear families:

Who would express these behaviors if you were living in a joint family? Are there advantages of living in a joint family in the expression of warmth? Are there advantages of living in a nuclear family for the expression of warmth?

APPENDIX D: DEVELOPMENTAL TIME TABLES

Date:

Family number:

Name of mother:

Interviewer:

In the following you will find statements and opinions about small children and their development. We are interested in your personal opinion towards these matters.

Developmental time tables

We start with your opinion about the points in time when certain developmental achievements will be accomplished. Think of an average, healthy child with the same economic background as you have. There are no right or wrong answers. Please answer spontaneously what first comes to your mind.

When do you expect that a baby has achieved the following competencies? Please indicate the months when it occurs for the first time in **girls** and when it occurs for the first time in **boys**. Please be as precise with the timing as you can.

	Age at first occurrence (month respective year and month)	
	Boy	Girl
<i>sees</i>		
<i>hears</i>		
<i>tastes</i>		
<i>recognizes mother</i>		
<i>recognizes grandmother</i>		
<i>recognizes father</i>		
<i>recognizes grandfather</i>		
<i>recognizes siblings</i>		
<i>demonstrates interests for objects</i>		
<i>produces first non-cry sounds</i>		
<i>speaks first word</i>		
<i>understands words</i>		
<i>understands small questions</i>		
<i>understands simple orders</i>		
<i>crawls</i>		
<i>smiles</i>		

	Age at first occurrence (month respective year and month)	
	Boy	Girl
<i>sits</i>		
<i>stands with support</i>		
<i>stands without support</i>		
<i>walks alone a few steps</i>		
<i>sleeps alone</i>		
<i>sleeps through the night</i>		
<i>recognizes him/herself in a mirror</i>		
<i>reacts to his/her name</i>		
<i>calls himself/herself by his/her own name</i>		

APPENDIX E: PARENTING PRACTICES DURING THE FIRST YEAR

In the following, you will find a selection of statements which address the correct handling of a mother with her baby and her small child respectively. Again some statements will be familiar to you, others not. You will probably agree to some and not to others.

Please think again of a baby with about 3 months of age and express your agreement or disagreement with a number between 1 and 6.

Please evaluate each statement **separately for boys and girls** and mark the respective number with a b or a g.

Don't think much about each statement, but react **spontaneously!**

	I agree					
	1 not at all	2	3	4	5	6 completely
24. The best for a baby is to be always with the mother without being in the center of attention.						
25. If a baby smiles, a mother should re-smile immediately.						
26. It is important to rock a crying baby on the arms in order to console him/her.						
27. It is not good for a baby to practice sitting, walking, or standing too early.						
28. Too much body contact prevents independence.						
29. Mother and child should not have a lot of eye-contact.						
31. Sleeping through the night should be trained as early as possible.						
32. Also for babies it is good to do a lot of gymnastics.						
33. It is not necessary to react immediately to a crying baby.						
34. You cannot start early enough to direct the infant's attention towards objects and toys.						
38. Gymnastics make a baby strong.						
39. Regular feeding schedules are important for a baby.						
40. If a baby is fussy, he/she should be immediately picked-up.						
43. One should have a lot of close body contact with the baby.						
44. Actually, babies are just overextended by toys.						
47. It is good for a baby to sleep alone.						
48. Baby talk is the wrong way to address a baby.						
50. A baby should be held on the arms a lot, also when other chores are run.						

	I agree					
	1 not at all	2	3	4	5	6 completely
51. During many activities, a baby can be held on the arms at the same time.						
52. When a baby cries, he/she should be nursed immediately.						
54. As long as babies cannot grasp, they rely on others to show them interesting objects.						
55. If a baby vocalizes, one should “answer” immediately.						
57. Babies should be left crying for a moment in order to see whether they console themselves.						
58. One should support babies’ early enthusiasm for objects.						
60. You do not need to talk with babies since they do not understand anything anyway.						
65. It is not good to hold babies early without support of head and neck.						
70. It is unimportant for the development of a baby to show objects to him/her.						
71. One should totally concentrate on the gaze of a baby.						
72. A baby should be always in close proximity with his/her mother, so that she can react immediately to his/her signals.						
73. If one carries a baby too much, one only spoils him/her.						

APPENDIX F: FAMILY ALLOCENTRISM SCALE

	I agree					
	1 not at all	2	3	4	5	6 completely
1. I resemble my parents very much.						
2. My family likes me to work very hard.						
3. I follow my own feelings even if it makes my parents very unhappy.						
4. My family's achievements honour me.						
5. The ability to obtain good family relations is a sign of maturity.						
6. After marriage parents should keep out of vital decisions of their children.						
7. My family's opinion is important to me.						
8. To know I can rely on my family makes me happy.						
9. I would look after my parents in their old age.						
10. If a family member has a problem I feel responsible.						
11. Even when I am not at home I consider the opinions of my parents.						
12. I would be ashamed to refuse a favour to my parents.						
13. My happiness depends on the happiness of my family.						
14. I have obligations and responsibilities in my family.						
15. There are a lot of differences between me and other members of my family.						
16. It is important to get along with the family at any cost.						
17. One should keep thoughts that could annoy the family to oneself.						
18. My needs are different from that of my family.						
19. When I leave my parents' home they cannot count on me any more.						
20. I respect the wishes of my parents even if they are not my own.						
21. It is important to feel independent from your family.						

APPENDIX G: COMPONENTS OF PARENTING MANUAL

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The codes refer to the content of the statements with respect to the parenting systems primary care, body contact, body stimulation, object stimulation, face to face contact , as well as the interactional mechanisms attention, distress regulation, contingency to positive signals and warmth.

In each utterance of the interviewee the parenting systems and interactional mechanisms are coded as they are mentioned. If the same category is mentioned several times in one utterance it is coded repeatedly.

Parenting Systems

- Primary Care

All meaning units (comments) relating to nursing, diapering, bathing, washing combing etc. or securing the child's health are coded.

Example: I like this picture because she is feeding her baby.

- Body Contact

Comments relating to mode and extent of body contact without qualifying it in terms of warmth.

Example: The mother touches the baby a lot.

- Body Stimulation

Comments relating to motor exercises and motor handling and massaging.

Example: She is exercising the child, moving her arms and legs....

- Object Stimulation

Comments relating to objects and object exploration. Pacifier are objects only if they are introduced in a playful, explorative manner.

Example: It's nice how they play with the toys.

- Face-to-Face

Comments refer to the facial system and vis a vis facial behavior. Comments must refer to mother and infant. Referring to dialogues is also coded here. If the mother is looking at the

baby but the baby is not described as being in communicative behavior with the mother the remark is coded as attention.

Example: They look at each other.

- Vocal Stimulation

(Talking, Singing, Naming) is also coded, even though it is not part of the parenting systems.

Example: she is singing to her baby.

Interactional Mechanisms

- Attention (Interactive Engagement)

- At+

Comments relating to the exclusive attention and concentration of attention towards the baby are coded to the positive pole of attention.

Example: I like how attentive the mom is with the baby

- AT-

Comments referring to a shared attention or a low concentration of attention towards the baby belong to the negative pole of this category.

Example: And this one is the last just because she is watching TV while breast-feeding.

- Child Alone Statement

Comment refers to the fact, that mother should give the baby time alone or that the child should develop self-regulatory skills.

Example: This mother is overprotective, she does not give the baby any time alone. She thinks she should entertain the baby all the time.

- Distressregulation

Comment refers to the behavior of the mother, regulating infant distress states (including fussing and crying). Distress regulation can be by

- giving a pacifier
 - body contact and tactile behavior, including carrying
 - body stimulation
 - object stimulation

Example: You have to breastfeed a baby when she cries.

The caregiver's behavior does not have to be specified.

Example: she is soothing the baby.

- Distressprevention

Comments referring to prevention of crying are coded here.

Example: children that are carried a lot cry less.

- Contingency Positive Signals

Comments refer to the temporal aspect of maternal behavior towards infant's signals in the face to face context.

Example: This mother always reacts promptly whenever the infant looks at her.

- Warmth in Positive States

Comments refer to positive emotion or the emotional expression of maternal behavior towards infant. Comments referring to affective sharing (laughing together, being on the same wave length, ...) are also coded as warmth.

Example: Whenever the baby looks at the mom, her face brightens.

- Body Warmth

Comments refer to the expression of bodily warmth like caressing, patting, kissing, smooching.

Example: A mother should cuddle her baby, carress her, just let her know she is there.

- Negative Emotion

Comment refers explicitly to negative emotions and emotional states of the child without stating distress regulation or distress prevention.

Example: the child is sad.

- Positive Emotion

Comment refers explicitly to positive emotions and emotional states of the child thereby emphasizing the importance of positive affect and emotionality.

Example: the child looks happy.

APPENDIX H: OVERVIEW OF STATISTICAL ANALYSES

Hypothesis	Analysis	Statistical treatment	Variables
Relatedness and the emphasis on the expression of emotional warmth are positively related			
Cross-cultural comparison			
Euro American and German mothers higher on emotional warmth than Indian mothers	A	ANOVA with contrast	IV: sample DV: warmth (questionnaire) Contrast: Euro American, German vs. Indian samples
	B	ANOVA with contrast, Scheffé test	IV: sample DV: warmth (picture cards) Contrast: Euro American, German vs. Indian samples; Post-hoc: sample
Emotional warmth scores positively related to family allocentrism scores	C	Corrleational analysis	family allocentrism score; warmth (questionnaire)
	D	Correlational analysis	family allocentrism score; warmth (picture cards)
Emotional warmth scores positively related to family allocentrism scores, when sample group is controlled	C _{modified}	Partial correlation	family allocentrism score; warmth (questionnaire); control: sample group
	D _{modified}	Partial correlation	family allocentrism score; warmth (picture cards); control: sample group
Indian mothers score higher on family allocentrism scores than Euro American and German mothers		T Test	IV: sample group DV: family allocentrism score
Intra-cultural comparison: generation			
Indian grandmothers emphasize emotional warmth and family allocentrism more than Indian mothers	E	MANOVA	IV: generation, sample DV: warmth (questionnaire)
	F	MANOVA	IV: generation, sample DV: warmth (picture cards)
	G	MANOVA	IV: generation, sample DV: family allocentrism score
Intra-cultural comparison: family structure			
Mothers living in joint families emphasize emotional warmth and family allocentrism more than mothers living in nuclear families	H	MANOVA	IV: generation, sample DV: warmth (questionnaire)
	I	MANOVA	IV: generation, sample DV: warmth (picture cards)
	J	MANOVA	IV: generation, sample DV: family allocentrism score

Agency and the modes of expressing emotional warmth				
Mothers stress distal modes of expressing emotional warmth more than grandmothers; urban participants emphasize distal modes of expressing emotional warmth more than rural participants	K	MANOVA	IV: generation, sample DV: relative frequency body warmth (picture cards)	
	L	MANOVA	IV: generation, sample DV: aspects of warmth (questionnaire)	
	M	MANOVA	IV: generation, sample DV: other expressions re-analysis (picture cards)	
Urban mothers emphasize distal modes of expressing emotional warmth more than rural mothers	N	ANOVA	IV: sample DV: parenting systems	
	O	ANOVA	IV: sample DV: interactional mechanisms	
	P	ANOVA	IV: sample DV: play	
	Q	ANOVA	IV: sample DV: child alone statement	
Do Indian mothers' ethnotheories on the expression of emotional warmth correspond to psychological theories?				
	R	Repeated measures ANOVA with contrast	IV: sample DV: parenting systems	Contrast: body contact vs. other systems
	S	Repeated measures ANOVA with contrasts	IV: sample DV: interactional mechanisms	Contrasts: warmth, body warmth vs. other mechanisms

What is seen as the family members' roles in expressing emotional warmth?				
Child recognizes family member	T	Repeated measures MANOVA with contrasts	IV: sample; generation DV: age at recognition of family members	Contrasts: mother vs. others
Importance given to family members	U	Repeated measures ANOVA with contrasts	DV: Frequency with which family members are mentioned	Analysis 1:
	V	ANOVA	DV: parenting systems for <ul style="list-style-type: none"> • mother • father • grandmother • other family members 	IV: rural-urban mothers; Analysis 2: IV2: rural
	W	ANOVA	DV: interactional mechanisms for <ul style="list-style-type: none"> • mother • father • grandmother • other family members 	mothers-grand-mothers
	X	Repeated measures ANOVA with contrasts	Parenting systems Mothers, other family members	
Discussion: two measures of emotional warmth				
The two measures of emotional warmth correlate		Correlational analyses	warmth (questionnaire) warmth (picture cards)	

APPENDIX I: MOTHERS' AND GRANDMOTHERS' BACKGROUND INFORMATION

(PARTICIPANTS WHOSE INTERVIEW EXCERPTS ARE QUOTED IN THE TEXT)

Name*	Sample	Generation	Family structure	participant		child	
				Age	Education in yrs	birth rank	gender
Antara	Delhi	mother	nuclear	32	15	first	male
Asha	Delhi	mother	joint	28	17	first	male
Gayatri	Delhi	mother	nuclear	28	17	first	male
Geeta	Delhi	mother	joint	24	12	later	male
Maitri	Delhi	mother	nuclear	32	17	later	male
Malika	Delhi	mother	joint	25	15	first	male
Priya	Delhi	mother	joint	29	15	later	male
Saroj	Delhi	mother	joint	31	17	later	female
Savitri	Delhi	mother	nuclear	37	15	later	female
Sita	Delhi	mother	joint	29	15	first	female
Champa	rural Gujarat	mother	joint	21	12	later	female
Kailash	rural Gujarat	mother	nuclear	33	0	later	male
Kamala	rural Gujarat	mother	nuclear	16	0	first	female
Leela	rural Gujarat	mother	joint	21	4	first	male
Madhu	rural Gujarat	mother	joint	20	7	later	male
Manisha	rural Gujarat	mother	nuclear	25	0	later	male
Manjula	rural Gujarat	mother	joint	19	6	first	male
Meena	rural Gujarat	mother	joint	18	7	first	male
Ramila	rural Gujarat	mother	joint	22	0	later	female
Shaku	rural Gujarat	mother	nuclear	26	0	later	female
Sudha	rural Gujarat	mother	joint	21	0	later	male

Name*	Sample	Generation	Family structure	participant		child	
				Age	Education in yrs	birth rank	gender
Tara	rural Gujarat	mother	joint	20	8	first	female
Anandi	rural Gujarat	grandmother	joint	46	0	first	female
Kokila	rural Gujarat	grandmother	joint	45	0	later	male
Padma	rural Gujarat	grandmother	joint	40	0	first	male
Parul	rural Gujarat	grandmother	joint	42	0	later	female
Ratana	rural Gujarat	grandmother	joint	40	5	first	male
Rekha	rural Gujarat	grandmother	joint	80	0	later	female

* all names have been changed

APPENDIX J: BETWEEN SUBJECTS EFFECTS: MOTHER'S AND FATHER'S ROLE

Mother's Role:

Table J- 1: Parenting Systems- Rural Gujarati Mothers vs. Urban Delhi Mothers

Variable	approximated mean		df	F	p	partial η^2
	rural Gujarati	urban Delhi				
Primary care	2.07	0.56	1,21	5.43	.030	.21
Body contact	1.44	1.2		0.17	.683	> .01
Body stimulation	-0.01	0.10		1.70	.206	.08
Face-to-face	0.08	0.27		0.77	.391	.04
Object stimulation						
Vocal stimulation	0.18	0.43		1.54	.228	.068

Table J- 2: Parenting Systems- Rural Gujarati Mothers vs. Grandmothers

Variable	approximated mean		df	F	p	partial η^2
	mothers	grandmothers				
Primary care	1.95	2.11	1,16	0.03	.858	< .01
Body contact	1.39	2.50		1.57	.228	.09
Body stimulation						
Face-to-face	0.07	0.01		0.29	.601	.02
Object stimulation						
Vocal stimulation	0.10	-0.05		3.78	.07	.19

Table J- 3: Interactional Mechanisms- Rural Gujarati Mothers vs. Urban Delhi Mothers

Variable	approximated mean		df	F	p	partial η^2
	rural Gujarati	urban Delhi				
Shared attention	0.12	-0.05	1,21	7.53	.012	.26
Exclusive attention	0.62	0.09		3.26	.085	.13
Child's negative signals	0.40	0.23		0.19	.666	.01
Child's positive signals	0.65	0.05		4.44	.047	.174
Warmth	2.51	1.94		0.45	.512	.02

Table J- 4: Interactional Mechanisms- Rural Gujarati Mothers vs. Grandmothers

Variable	approximated mean		df	F	p	partial η^2
	mothers	grandmothers				
Shared attention	0.11	0.09	1,21	0.03	.863	< .01
Exclusive attention	0.50	-0.25		3.78	.070	.19
Child's negative signals	0.36	0.39		< 0.01	.931	< .01
Child's positive signals	0.55	-0.20		5.71	.030	.26
Warmth	2.16	1.83		0.18	.680	.01

Father's Role:**Table J- 5: Parenting Systems Rural Gujarati Mothers vs. Urban Delhi Mothers**

Variable	approximated mean		df	F	p	partial η^2
	rural Gujarati	urban Delhi				
Primary care	0.11	0.51	1,21	1.09	.307	.05
Body contact	0.21	0.39		0.55	.468	.03
Body stimulation	0.21	0.02		1.30	.267	.06
Face-to-face						
Object stimulation						
Vocal stimulation	0.34	0.51		0.32	.577	.02

Table J- 6: Parenting Systems Rural Gujarati Mothers vs. Grandmothers

Variable	approximated mean		df	F	p	partial η^2
	mothers	grandmothers				
Primary care	< 0.01	0.17	1,16	2.21	.157	.12
Body contact	0.16	0.16		< 0.01	.975	< .01
Body stimulation	0.16	-0.01		0.71	.413	.04
Face-to-face						
Object stimulation						
Vocal stimulation	0.24	-0.01		0.71	.413	.04