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# Cultures of Infancy. The Foundation of Developmental Pathways

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Development can be understood as a series of universal developmental tasks that pattern the human life span. These developmental tasks evolved during the history of humankind, mainly to solve recurring adaptive problems. They are functionally related to each other in the sense that the solution of earlier tasks influences the solution of later developmental tasks. Thus developmental and biographical continuity emerge. The resulting developmental pathways, however, are not conceived of as being absolutely determined by the earlier influences. Developmental pathways are informed by earlier as well as concurrent influences. Plasticity, yet not unlimited, characterizes developmental pathways as well as continuity.

Humans are equipped with a universal repertoire of behavioural predispositions in order to solve the developmental tasks. These predispositions are activated during focal developmental phases, when the solution of the developmental task becomes central for developmental progress. The solution must be contextually sensitive so that locally defined competencies result as a pattern that is adaptive in this context. In line with these considerations, different conceptions of competence and intelligence have been documented (Atran, Medin, & Ross, 2005; Keller, 2007; Sternberg & Grigorenko, 2004). These conceptions of competence are rooted in cultural models of the self.

Two prototypical models of the self can be differentiated being adaptive for two extremely different contexts, the model of independence and the model of interdependence (Kağıtçıbaşı, 1996; Markus & Kitayama, 1991).

The model of independence conceives of the self as the centre of mental states and personal qualities. This essentialist self is stable across time and situations. Personal autonomy and separateness from others are the basic anchors of the independent self construal. Individuals tend to self maximization and self expression. This conception of the self is adaptive in an urban environment that is characterized through anonymous encounters and competition even between familiar individuals including family members.

The model of interdependence conceives of the self as part of a social system, mainly the family. The self construal is context sensitive and fluid. Relatedness and heteronomy are the basic anchors of the interdependent self. Individuals strive for harmony and accept hierarchy and role-based authority. This conception of the self is adaptive in rural face-to-face societies that are characterized through cooperation and conformity.

Both conceptions of the self can be characterized as relating to different economic and sociodemographic parameters. Urban middle-class families following the model of independence have a high level of formal education, start family formation in their earlier to mid thirties and have only few children (the national mean values for Germany and Greece are e.g. 1.3 which means that the figures for middle-class members only is even smaller).

Rural farmers living in traditional villages generally have a low level of formal school experience and associated with that a rather low economic standard of living. They start family foundation rather early, for women mainly in their late teens and have comparably more children, who, however, do not all survive.

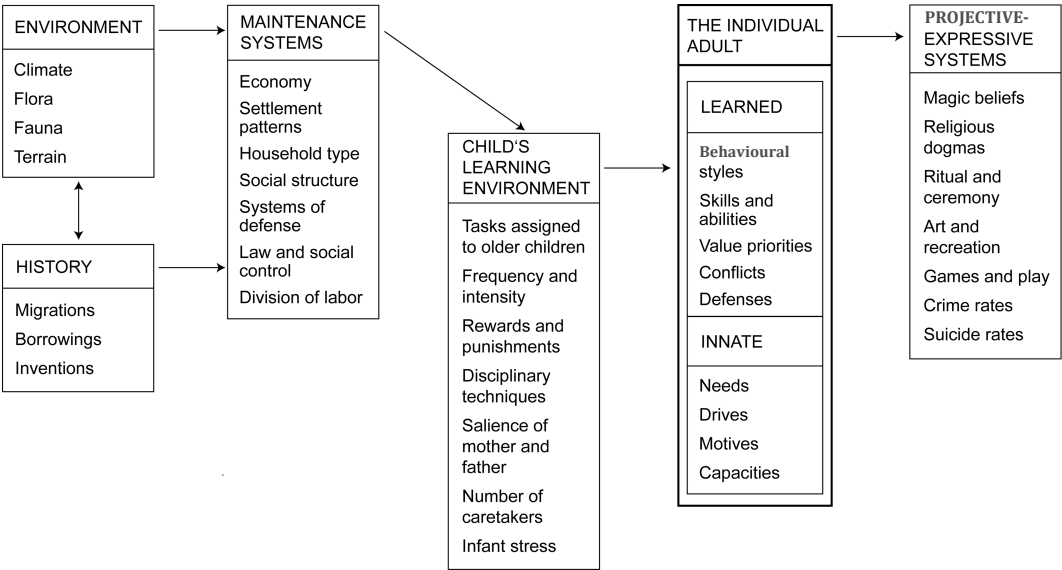
The different economic and sociodemographic parameters model the reproductive life strategy and thus the parenting styles for raising children. Based on these parenting styles, children construct and co-construct their first representation of the self which in the following course of development orchestrates the consequent developmental tasks (Keller, 2007).

In the following paragraphs, first parenting strategies are described that support the two cultural construals of the self. Then major developmental tasks of the following developmental phases will be characterized briefly: self recognition and self regulation at the end of the second year, the development of the autobiographical memory with about 3 years, and the development of a theory of mind with about 4 years of age.

**Cultural Conceptions of Parenting Strategies**

Parenting represents a significant cultural activity. It can be regarded as the major mechanism for the transmission of cultural values and practices from one generation to the next. The socialization of children into the cultural scripts of the social environment is a major task and responsibility of families (LeVine, 1977). Socialization is enculturation through participation in everyday activities embodying goals, values, beliefs, and emotions of the participating individuals. Socialization thus comprises conscious and intentional as well as unconscious and intuitive practices.

Our conceptualization of parenting strategies is based on Whiting’s (1977) model of ecocultural research (Figure 1).

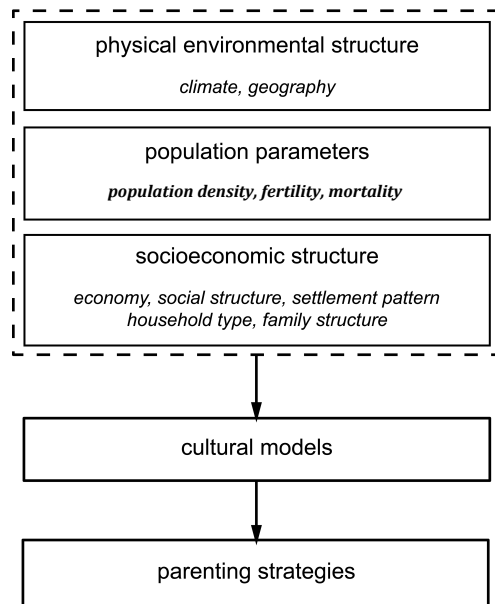


**Figure 1.** The Model of Ecocultural Research (Whiting, 1977).

This model is encompassing in that it starts with the parameters of the physical environment, like climate and terrain, which interact with the history of humans living in that physical environment. Particular economic and social systems develop which define children’s learning environment which eventually shapes adult psychology and behaviour. Thus, the model combines evolutionary as well as cultural conceptions of development (Keller, 2003). This model informed our conceptualization of parenting strategies (Figure 2).

In line with this model, we assume that the physical environmental structure defines population parameters which in turn inform particular socioeconomic structures. The aggregate of these different levels is represented in cultural models, specifying the roles of autonomy and relatedness as adaptive strategies within particular environments. Cultural models specify parenting strategies, as composed from socialization goals, parenting ethnotheories, and

behavioural strategies. Parenting strategies are thus nested into the connotative space of cultural models.



**Figure 2.** The Ecoculture of Parenting (Keller, 2007).

The cultural models of independence and interdependence can be understood as filters for the selection of adequate parenting beliefs and practices.

### **The First Integrative Developmental Task: Relationship Formation**

The formation of primary relationships can be considered the first integrative developmental task that human infants must master. Due to their extreme helplessness (*altriciality*), infants are vitally dependent upon a caregiving environment that provides nutrition, hygiene, protection, and social interaction. Nevertheless, infants are born with behavioural predispositions that elicit and foster caregiving behaviours from their social environments, as well as the capacity for learning. With the particular physical appearance of babyhood (*Kindchenschema*, Lorenz, 1969 [1943]), they attract attention and release positive emotions. They are particularly prepared for social interaction. They prefer the human face over other perceptual displays and behave differently towards people as compared with objects. They process meaningful language units from their linguistic environment, are sensitive to stimulation, and experience relief when comforted. Based on their active participation in social interactions they construct their social matrix and their conception of themselves within this matrix (Keller, 2003; Keller & Greenfield, 2000).

However, the design is not perfect at birth. For example, newborns can see, but vision is still imperfect inasmuch as convergence and acuity are not yet fully developed, vision and movement are not yet coordinated, and the memory span lasts only about one second. Therefore, infants need a special co-designed caregiving environment. For this reason also, caregivers are endowed with behavioural dispositions to care for and to interact with babies. Humans from about the age of two to three years display parenting skills which enable them to perceive and process communicative cues from babies and to respond to them in appropriate ways. These behavioural predispositions are shaped by the cultural environment into adaptive parenting

strategies. Cultural processes are intrinsically intertwined with evolved developmental tasks, so that development constitutes the interface between biology and culture (Keller, 2003, 2007).

### **The Independent Parenting Strategy**

Middle-class families in the Western world want their children to become autonomous and independent, develop self confidence and self esteem as early as possible. From birth on, children are treated as quasi equal partners with the responsibility to mainly rely on themselves. In dialogical communication structures, already infants' wishes and preferences are acknowledged with the consequence that parenting is child-centered. A Los Angeles mother of 35 years with a first baby son at the age of three months develops her ethnotheory in an interview:

"I was trying to play with him but he was more interested in looking in the mirror, let him look in the mirror....let him explore....yeah ...versus trying to distract the baby...."

Besides focusing on autonomy, the ability of being able to spend time alone is another major topic. A 36 years old mother of a three months old daughter from Berlin explains her ethnotheory in an interview as follows:

(M = Mother; I = Interviewer)

M: In the end, it is important that the baby also plays by herself.

I: Yeah

M: I leave her consciously alone sometimes, so that she is not always distracted or that somebody plays with her

I: Hm

M: Has....moments for herself. I find this ideal.

I: Yeah, why is it important, that she is alone sometimes?

M: Yes, the baby can simply concentrate on her toys. Sometimes I deliberately put a toy into her bed, so that she can play with it.

These beliefs and ideas, that we call ethnotheories in order to emphasize their cultural nature, are translated into particular behavioural strategies; caregiver and infant spend time exclusively with each other. Face-to-face contact is the central communicative channel during the early months of life. Babies spend a considerable amount of time lying on their backs and mother or father bending over them, looking, talking, and mirroring the baby's signals. Parents basically respond contingently to infants behavioural cues, i.e. in a time window faster than a second. This intuitive regulation matches the memory span of the infant during the first months and allows the baby to link the own behaviour with that of the interactional partner and thus experience causality (Keller, Kärtner, Borke, Yovsi, & Kleis, 2005). Besides face-to-face exchange and eye contact, object play and toys are the second important domain of parenting as expressed in the interview examples. This parenting strategy is distal, in that the distant senses are the major avenue of building emotional bonds between caregiver and infant.

Examples from conversations of Euro-American mothers from Los Angeles interacting with their three months old babies are:

"Want to look at mommy for a second or are you busy? Busy huh? Yes..."

"Okay, should I read another little book to you, in Greek?"

"What are you looking for? What are you looking for, darling? Do you need this instead?"

"I am going to leave you alone so you can play all by yourself"

It is obvious that the mothers address their babies as mental beings with needs, preferences, and wishes that need to be taken serious. They confirm the self worth of the baby and transmit a positive and self maximizing picture:

“Look at those strong legs.....Look, how big that big boy is?....Super baby, super baby...Look at that...Look at that big boy..”

The independent parenting strategy represents a consistent model across cultures. This means that the interaction format of Euro-American, German or Greek middle-class families is similar, although there are also differences. These differences, however, modulate different aspects of independence, which are all substantially different from an interdependent parenting strategy.

### **The Interdependent Parenting Strategy**

Rural, subsistence-based families in traditional villages place major emphasis on their children's relatedness with their families from birth on. Being respectful to parents and elders and live harmonious relationships are central topics on the socialization agenda. The self is fluid in order to navigate along different expectations with respect to social obligations. Agency is defined interdependent (Kitayama, 2002). Personal autonomy is not evaluated and separateness is unthinkable. These ideas and socialization goals are represented in parenting ethnotheories specifying children as novices from birth on who need to be trained and controlled. Parenting is parent-centered, because parents best know what is good for their children, so that there is no need to explore their wishes. Children are gifts from gods and represent the links to the ancestors. Health and growth are the primary targets of parental care, breastfeeding and body contact the primary components of parenting (Keller, 2007). Whereas in the independent strategy it is the optimization of positive emotionality, the avoidance of negative emotionality is it here, since negative emotions may indicate problems with health and growth (Keller, 2003).

An 80 years old illiterate farmer from rural Gujarat in India with 5 daughters and numerous grandchildren expresses the following opinion in an interview:

(GM = grandmother; I = interviewer)

I: Yes, so do you feel breastfeeding is essential?

GM: Yes, breastfeeding has to be done.

I: Why do you feel so?

GM: If [a baby] cries, breastfeeding have to be done and have to be carried.

I: So breastfeeding is essential?

GM: Yes.

I: So, what is the benefit of breastfeeding?

GM: Breastfeeding has to be done.

I: Yes, so

GM: He cries, so breastfeeding.

I: He doesn't cry, then not breastfed?

GM: He cries, so make happy by carrying.

I: No, but what I am asking, is don't cry, then not breastfed?

GM: If don't cry, don't cry, so sleeps, then why breastfed?

I: So breastfeeding is to calm the crying child?

GM: Yes.

Health and growth are the guidelines for all parenting behaviours. Accordingly also objects and toys are assumed to serve these goals as a 39 years old Nso farmer, mother of 5 children, explains:

I: Why is it good to give a rattle to the child?

M: It makes the child to play and not cry again.

I: What happens when a child cries?

M: When he is crying too much, he can be ill.

The ethnotheories are expressed in interactional behaviours through extensive body contact, body stimulation, and the continuous monitoring of negative infant signals. Babies are always in close bodily proximity with others. The Nso babies spend most of their earliest weeks wrapped on the mothers' body, also when she does household chores or works on the farmland. Also the Gujarati babies experience co-occurring care. They are nursed when their mother is washing vegetables or cooking meals. This parenting strategy does not allow extensive face-to-face contact and exclusive dyadic attention. The conversations are brief, utilizing vocalizations more than verbal messages. Mainly social topics are addressed. The following example reports 2 minutes of conversations between a Nso farming mother interacting with her three months old baby.

Nso mother (39 years old, farmer, 8 children):

I: Why is that one good?

M: Because she is lifting the child up as their are playing and he is feeling fine.

I: Why is it good to be lifting the baby up like that?

M: So that the baby should become lighter.

I: Okay and what again? Have you seen how she is lifting

M: Yes.

I: Why is it good to be lifting the child and laughing with him like that? What happens to the baby when the mother is playing and laughing with him?

M: The baby will be feeling fine.

A mother from LA (37 years old, teacher, three months old daughter) explains the following in an interview:

I: So what is important about um their- their health, yeah, well

M: For the health of the baby, the intelligence, you know, bonding also is important, you know- like some people, you know train the baby to take a bottle, which I am in the process of doing, but- a lot of people do it so they can give it to somebody else the baby to feed the baby. But I think it's- it's really important in the beginning, in the first months of the baby's life for you to feed the baby, the mother to establish that bond. Especially in the first year of the baby's life.

I: Hm

M: So it's for physical needs, intellectual needs, emotional needs, social- you know, everything.

I: Ok, good. Here- I'll show you the next four ones.

M: Ok

I: Which one would you choose next?

M: Next, uh- I guess I would have to choose- I would choose this one.

I: Ok- why did you choose this one?

M: Uh- it looks like she is probably burping the baby <laughs> just- comes right after feeding the baby. It's very important because the baby becomes rid of gas, because if they don't they can feel falsely full and not get enough nutrition. Um- she could also be just holding the baby and soothing the baby, rubbing the baby's back which is important- something that you do all day, makes the baby feel good

I: Why is it important to-

M: Well, just as a matter, in other words, there is like five- five things you're supposed to do. You're supposed to- um- soothe your baby, um- so that you can create the environment that the baby had inside you for nine months. So: the baby being close to you, um, having physical contact, um, smoothing the baby, like that it sounds like when the baby was inside you. So that why I think especially in the beginning, they really need that contact, you know, to feel, you know, loved and, and safe, and again if she is burping for comfort and also not to- so that the baby can eat more, that's why you have to burp the baby in between the feedings.

Also the interdependent parenting strategy represents a consistent cultural script that has even narrower boundaries than the independent script. The intracultural variability among the Nso and the Gujarati farmers is substantially lower than among the Western middle-class families (Lamm & Keller, 2007).

### **Autonomous Relational Strategies**

The two cultural models that we have discussed so far, the model of independence and the model of interdependence, can be regarded as prototypes, because they are not only substantially different from each other, in many respects they are exclusive of each other. This is e.g. visible in the fact, that what is the cultural norm in one model represents a pathological condition in the other: mother-infant symbiosis as the standard relational format in the rural villagers is a reason to refer to a family counseling in Western middle-class families. However, since independence and interdependence, autonomy and relatedness resp. are considered to represent independent dimensions, different combinations or mixtures can be conceived of (Kağıtçıbaşı, 1996). There are multiple possibilities for testing the co-occurrence of autonomy and relatedness in one cultural model. Kağıtçıbaşı (2007) has conceptualized this model for urban educated middle-class families in traditionally interdependent societies, like e.g., Turkey. We have included middle-class families from Delhi, India, Beijing, China, or San Jose, Costa Rica in our research design (Keller, 2007). Another possibility to test this model are historical or generational comparisons (Keller & Lamm, 2005; Lamm, Keller, Yovsi, & Chaudhary, 2008). In fact analyses confirm that there are multiple ways of combining the dimensions of autonomy and relatedness, not only in quantitative terms but also in terms of quality and meaning.

A 32 years old mother of two children from Delhi describes the role of body contact for caring for a three months old baby in an interview:

“Yes, it does. I am not saying that one should always be cuddling; there are lines to be drawn. Not always you should be cuddling the child, but there are times when the cuddling has to be there. Especially in the night when you are sleeping, saying to the child that I love you. That kind of thing makes a lot of difference to the child. Whenever you are lying down in the bed, cuddling with the child. For both me and my husband, make it a point that at least in a day two or three times, we have a nice hug with the children, a nice kiss and I love you types so that the child is feeling happy and she also feels good and she has also started doing it as a regular thing so...”

Obviously and in line with the dimension of relatedness, body contact is important to this mother, but not as a pervasive context of care as it is in the interdependent model. If this difference can still be interpreted as a quantitative difference, the following example addressing eye contact from the perspective of a 22 years old mother of a three months old baby girl from Delhi certainly describes qualitative changes of meaning:

“Both mother and child are complacent seeing each other happy so I think that this is okay, there is no need for the mother –I mean at this particular point the mother is just smiling at the baby and the baby is responding back smiling but the mother



is not creating any activity [so] that the child can talk, she is just holding the baby.”

However, eye contact is considered important, as an exclusive dyadic activity but also as a context for stimulation. Thus components of the model of independence and the model of interdependence are combined. Eye contact as the pattern of mutual gaze and concentration on the subtle signals during eye contact as so characteristic of Western middle-class mothers is not what the Delhi mother has in mind when she talks about eye contact. This change in meaning indeed establishes a new pattern of parenting.

The early social experiences help the infant to construct and co-construct an early and basic concept of self. Assuming contextual continuity, which is the most frequent environmental condition, it can be concluded that the early experiences lay the foundation for the solution of the next developmental tasks.

### **The Integrative Developmental Tasks of the Second Year: Self Recognition and Social Regulation**

Approximately between 15 and 18 months of age, children begin to recognize themselves in the mirror (Bard, Myowa-Yamokoshi, Tomonaga, Tanaka, Costall, & Matsuzawa, 2005; Lewis & Brooks-Gunn, 1979). The self referential behaviour of a child in the “Rouge” test (the child is marked with rouge in the face without noticing it and without being able to detect it by peripheral vision) is regarded as expression of self knowledge. This should indicate a categorical self concept, i.e. a self that has boundaries and serves as the basis of action, communication, and emotion. It is assumed that the behaviour during the rouge test is independent from prior experiences with mirrors or shiny surfaces.

Social regulation concerns the abilities of a child to follow social rules and conventions and respect the normative framework of their family’s daily life (Kopp, 2001). Social regulation is expressed as compliance to requests, the delay of actions, and the modulation of emotions.

It can be assumed that early socialization experiences influence the timing of self recognition and social regulation. Autonomy promoting socialization strategies related to the cultural model of independence should accelerate self recognition whereas relatedness promoting socialization strategies related to the cultural model of interdependence should accelerate the timing of social regulation. The experience of socialization strategies related to the cultural model of autonomous relatedness should result in the acceleration of both self recognition as well as social regulation. These assumptions could be confirmed with longitudinal analyses of Greek middle-class families from Athens (model of independence), Cameroonian Nso farming families (model of interdependence), and Costa Rican middle-class families from San Jose (model of autonomous relatedness) (Keller, Yovsi, Borke, Kärtner, Jensen, & Papaligoura, 2004).

### **The Achievements of the Third Year of Life: The Emergence of the Autobiographical Memory**

One’s autobiographical history is central for the self development (Ross, 1989). With about three years of age, a reliable memory for daily events develops (Fivush & Nelson, 2004). The capability to store experiences in a narrative structure emerges when language development allows the child to participate in conversations about past events with family members (Mullen, 1994). Cross-cultural studies have revealed that cultural environments differ markedly with respect to the onset of autobiographical memories. East-Asian children report their first autobiographical memories up to 17 months later than Euro-American children. The differences in onset are related to differences in mode and expression of autobiographical memories. An early onset is associated with an extended volume, specificity of memories, emotional elaborateness, and self reference. A later onset is associated with a skeletal volume, routine

memories that are emotional inexpressive. The content centers on relations and social norms and values (Han, Leichtman, & Wang, 1998). Cultural differences in the narrative embodiment of past events are thus consistent with the narrative environment from infancy on. The differences reflect the inclination to the cultural models of independence and interdependence and autonomous relatedness. The following examples are brief excerpts of mother-infant conversations about past events, which is the standard method to assess autobiographical memory in small children.

A German (middle-class) mother-child interaction representing the cultural model of independence, concentrates on a birthday party:

M: Where did you see the dogs yesterday?

C: I saw them on a birthday party.

M: On a birthday party, exactly! How did you like the birthday party?

C: It was nice -First I had been a little bit afraid but than I've pet them.

M: Yeah, I'm really proud of you!

The mother refers to the agency of her daughter and asks for her evaluations ("how did you like the birthday party?") and emotionally appraises the child ("I'm really proud of you"). The child has already acquired the same conversational style with personal judgments ("it was nice") and agency with respect to emotions ("I had been a little bit afraid") and action ("I have pet them").

A Cameroonian Nso farmer, representing the cultural model of interdependence, talks with her same-aged daughter about a visit to a church service:

M: Do you remember when we went to church yesterday?

C: Mhm

M: We went to church, not so? And after the ceremony, we went to Mi's mother's compound to eat what?

C: I don't know.

M: No. Say it correctly. We ate puff-puff and rice, not so. And what was Amina's mother telling you?

C: That... that I should listen.

In line with her cultural script, this mother refers to co-agency ("we went to church", "we went to Mi's mother", "we ate puff-puff and rice"). She emphasizes social contexts (church service) and encounters ("visit to Mi", "Amina's mother"). She repeats what she says ("we went to church") and gives clear instructions to the child ("say it correctly"). The child's style is skeletal ("Mhm", "I don't know"), repetitive, and normative ("that I should listen"). Also the communal character of child rearing becomes obvious here, when also Amina's mother instructs our target child.

The San José middle-class mother, representing the cultural model of autonomous relatedness, finally talks with her three years old son about a wedding:

M: David, do you remember when we went to celebrate auntie Sandra's and uncle Jorge's wedding? Did you like it there?

C: Yes.

M: And how did we celebrate it?

C: I don't know.

M: What did we do at the wedding?

C: I was dancing.

M: You were dancing, right.

The San José mother nicely demonstrates that she combines autonomy and relatedness expressing narrative elements to a much larger degree than the mothers in the two previous

examples. She uses co-agency (“we went to celebrate”, “how did we celebrate”) but she also uses agency with respect to preferences (“did you like it”) and action (“you were dancing”). She refers to other people (auntie and uncle) and uses elaborations (“do you remember”) to stimulate the child to actively participate in the conversation. Also the child uses both codes, is unspecific (“I don’t know”) and agentic (“I was dancing”) at the same time.

These are only very brief examples that nevertheless are representative of the different conversation styles.

Overall, these examples demonstrate that the development of the autobiographical memory as the narrative structure of the self is localized in everyday conversations that reflect cultural codes consistent through the different developmental stages.

### **Further Steps in Self Development: The “Theory of Mind”**

The last step in the development of a core conception of the self consists in the conviction that humans are mental beings, whose behaviour is based on mental states and processes. This implies the understanding that needs, beliefs, and emotions differ from person to person. Wellman and Miller (2008) summarize “...that beliefs and desires are (a) prototypical inner psychological states, not overt behaviors, (b) frame a conception of persons as intentional agents, and (c) along with related constructs such as perceptions and emotions, provide explanations of human action and life.” The understanding of false beliefs is regarded as a central component of children’s “theory of mind”, since it demonstrates the existence of symbolic representations (Dennett, 1983).

The acquisition of a theory of mind represents a universal developmental task (Keller & Chasiotis, 2006). However, it is more and more recognized that different sociocultural environments also prompt different architectures for the theory of mind. Empirical studies have demonstrated that social class and number of siblings, especially older ones, influence the timing of the understanding of false beliefs, even if language competence is controlled (Ruffman, Perner, Naito, Parkin, & Clements, 1998).

On the other hand, the socioeconomic situation of a family and the number of siblings in a family are building blocks for sociodemographic contexts that are associated different cultural models of the self. Different parental strategies associated with these models influence the development of the theory of mind. An elaborated narrative environment, the discussion of mental states in everyday situations, and fantasy play accelerate the early emergence of the theory of mind. Similar to the early development of the autobiographical memory, a maternal narrative style focusing on autonomy is crucial for the early development of a theory of mind (Ruffman, Slade, & Crowe, 2002). Accordingly, Japanese children who are raised with more reference to relatedness develop the understanding of false beliefs later than Western children (Naito, 2003).

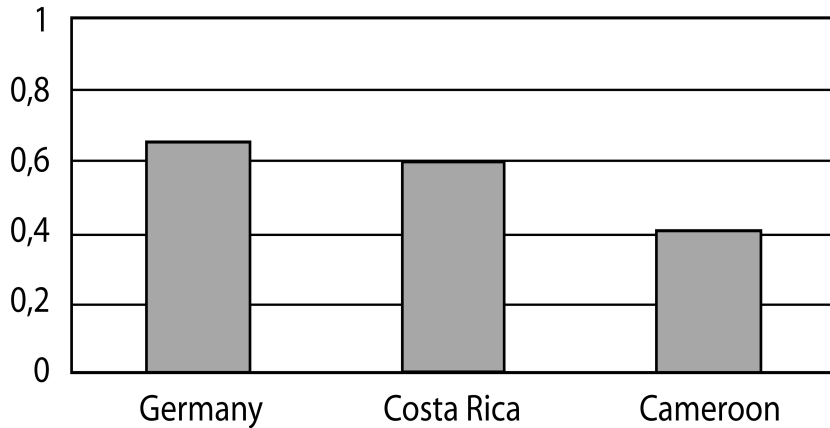
In a cross-sectional cross-cultural study, Chasiotis, Kiessling, Hofer, and Campos (2006) tested the occurrence of a theory of mind with children that can be associated with the three cultural models: German, Costa Rican and Cameroonian children. The theory of mind was assessed with a battery of different tasks; age, gender, sibling status, language understanding of the children and mother’s education were controlled. The results are summarized in Figure 3.

The results confirm the assumptions that the German and the Costa Rican children give significantly more correct answers than the Cameroonian children.

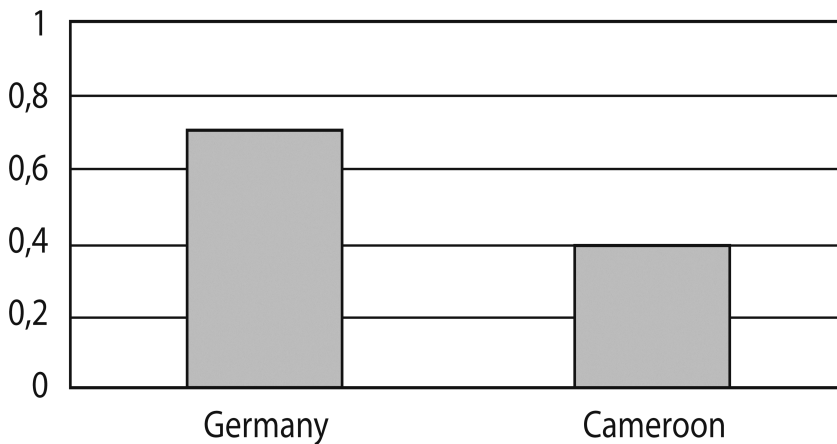
Also data from our longitudinal studies confirm significant differences between German middle-class children and Cameroonian Nso farmers’ children (Figure 4).

These differences are also informed by the nature of the task that has been developed in Western laboratories, based on Western worldviews. It would be very important to develop tasks assessing theory of mind that also take interdependent world views into account.

Nevertheless, the cultural analysis of universal developmental tasks clearly demonstrates that developmental pathways are informed by broader cultural models that negotiate the dimensions of autonomy and relatedness differently.



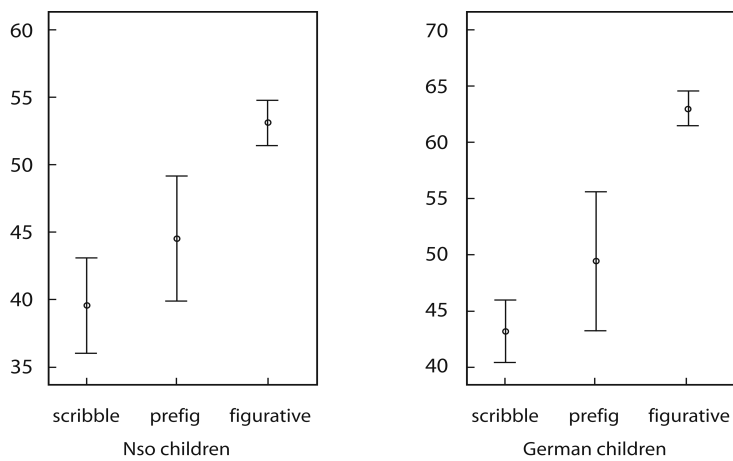
**Figure 3.** False Belief Tasks in German, Costa Rican, and Cameroonian children.



**Figure 4.** False Belief Task in German Middle-Class and Cameroonian Nso farmers' children.

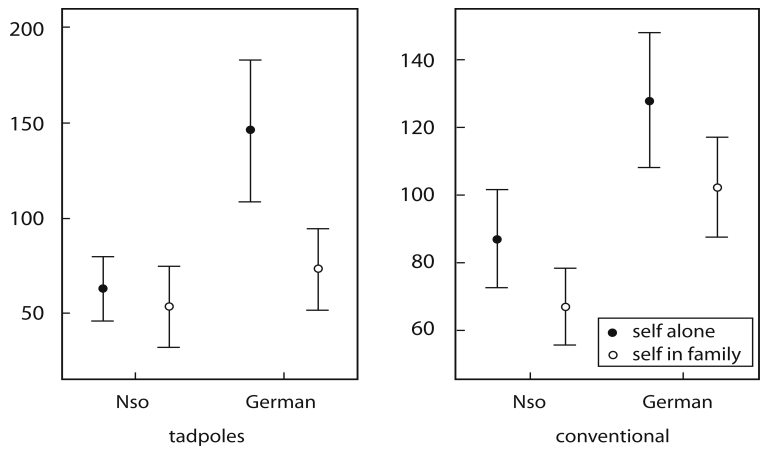
### Instantiations of the Self

So far, we have dealt with developmental milestones that children have to master as part of their developmental pathway to the competent self. A logical next question is not only to ask how children understand others, but also how they see and perceive themselves. One avenue to the analysis of self perception are children's drawings. The current and past literature on children's drawing consists largely of developmental studies relating the way formal elements change with increasing age and the ways children use visual forms to symbolically represent themselves and the world around them. Thus, children's drawings of themselves can also be understood as a materialized way to express the cultural concept of the self. In a cross-sectional project, we analyzed Cameroonian Nso and German children's drawings of themselves (Keller & Rübeling, in press). All children were assessed in kindergartens; familiarity with paper and pencil as well as the act of drawing was given. The analysis of the self drawings in two conditions (self alone and self in family) revealed that the developmental sequences of drawings from scribble to tadpole to figurative/conventional drawing occurred at comparable ages (Figure 5).



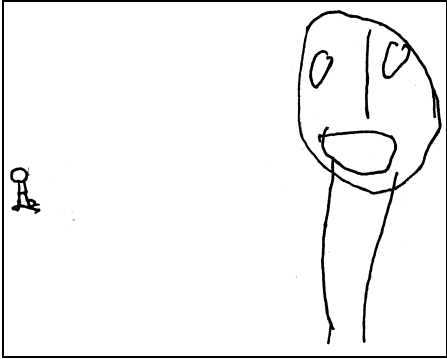
**Figure 5.** Drawing Stage and Age in Months (y axis).

There was however a very robust cultural difference: the height of the drawing. Figures 6 & 7 demonstrate that the German children drew themselves significantly higher than the Nso children, irrespective of the condition and the drawing stage (alone or with family) (Figure 6).

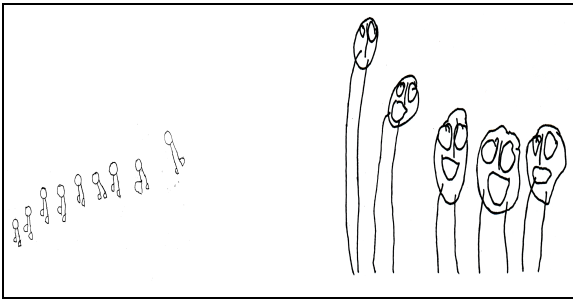


**Figure 6.** Drawings of the Self-Height.

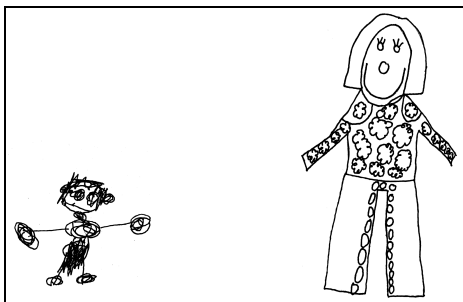
The following Figures (7a, 7b, 7c, & 7d) exemplify these differences.



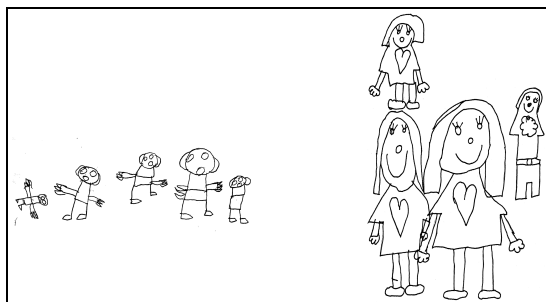
**Figure 7a.** Tadpole – Alone.



**Figure 7b.** Tadpole – in Family.



**Figure 7c.** Figurative – Alone.



**Figure 7d.** Figurative – in Family.

Height can certainly be regarded as an instantiation of the self. It can be assumed that the larger the self drawing, the more room the child occupies, the higher the self worth as an individual. Although this conclusion is still speculative, the results are in line with the different pathways of self development.

### Conclusion

The argument that has been developed in this chapter is that cultural systems of shared meanings and shared practices represent adaptations to sociodemographic contexts that change as these contexts change. Two prototypical contexts were described: urban middle-class families with a high level of formal education and rural subsistence-based farming families in traditional societies. Both contexts are represented in different psychologies and thus different conceptions of the self. The urban middle-class context is associated with the cultural model of independence with autonomy as the leading value system. The rural farming context is associated with the cultural model of interdependence with relatedness as the leading value system. We have presented a third avenue, where autonomy and relatedness can form multiple alliances as adaptations to urban middle-class families from traditional societies.

Early social experiences lay the foundation for the definition of a particular self that informs the solution of the following developmental tasks. “Lessons learned in infancy establish a pattern of experience that makes child rearing all the more effective when these are continuous with lessons learned later” (Quinn, 2003, p. 154). Continuity of cultural messages and thus children’s experiences are therefore the foundation of developmental pathways.

Constancy of child rearing environments is expressed as continuity of parenting styles. Contextual continuity is thus an important avenue of cultural learning and constructing the self. This does not exclude, however, that children are able to process contextual discontinuity and to learn messages referring to different cultural models.

The existence of different pathways of development changes the unitary conception of psychological development as advertised in textbooks. It supports the conception of development as the cultural-specific solution of universal developmental tasks. However, much research in different cultural contexts within and across national boundaries is needed in order to aim at a universal developmental science.

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