

The timing of verbal/vocal communications between mothers and their infants: A longitudinal cross-cultural comparison

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Abstract

Early dialogues between parent and child constitute an important factor for the acquisition of culture and hence verbal interaction is considered to be a universal parenting system. Parenting strategies and socialization practices are strongly influenced by the cultural conception of the self, prototypically defined as the model of independence and interdependence. Our study focuses on the temporal organization of spontaneous verbal/vocal behavior of 20 German middle-class and 28 Cameroonian Nso mother–infant dyads. The infants and their mothers were observed weekly in a 5 min free-play interaction scene from 0 to 3 months of age. We hypothesized to find different amounts of vocalization time, synchronous vocalizations, and contingent maternal responses in the verbal/vocal patterns of the two samples. The findings indicate cross-cultural differences in the temporal structure of verbal/vocal interactions already during the first three months of life, reflecting underlying differences in the culture-specific modes of verbal interaction.

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Parenting is a biologically based behavioral predisposition and a cultural activity, embodying norms and values of particular environments, at the same time. It can be assumed that humans are equipped with a universal parenting repertoire that cultural influences shape in a way that adaptive parenting styles emerge. Thus, infants construct meaning in culturally appropriate ways of being, feeling, and doing mainly in the social context of caregiver–child everyday interaction from birth on (Budwig, Uzgiris, & Wertsch, 2000; Keller, 2003). Caregivers in different cultural environments follow different parenting strategies, the proximal style focusing on body contact and body stimulation or the distal style focusing on face-to-face exchange and object stimulation (Keller, 2007). Accordingly, verbal/vocal communication with infants as a parenting universal also differs substantially across cultures. Caregivers use different amounts of language as communication medium with infants (e.g., Toda, Fogel, & Kawai, 1990) and their conversational styles differ (e.g., Rabain-Jamain & Sabeau-Jouannet, 1997). This paper is intended to address a third dimension of verbal/vocal communication between parents and infants: the temporal structure in two cultural environments, that have been demonstrated to differ in the amount of language used in early interactional situations as well as the conversational styles (Keller, 2007): German middle-class and Cameroonian Nso farming families.

German middle-class parents as other highly educated Western parents instantiate a dialogical model of interaction as expressed in turn taking of communicative signals with infants taking the lead (Jaffe, Beebe, Feldstein, Crown, &

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Jasnow, 2001; Richman, Miller, & LeVine, 1992). Caregivers respond to babies' signals in the format of a pseudo dialogue. Cameroonian Nso farmers instantiate an apprenticeship model of interactions as expressed in instructing and directing the infant who is assigned a more passive role, comparable to the findings of Cowley (2004) with the KwaZulu in South Africa. These two interactional models should have consequences for the timing of interactional signals. In this study we therefore analyze the timing of verbal/vocal interactions between mothers and their small babies in these two cultural environments.

So far, the temporal structure of early parent child interactions has been mainly described in terms of contingency as the intuitive tendency to respond to infants behavioral expressions in a time frame of less than 1 s. Contingent responsiveness is assumed to be a universal parenting quality, which is adapted to infants' short memory span. It provides the infant with the experience that events may belong together (Gergely & Watson, 1999; Gewirtz & Pelàez-Nogueras, 1992; Haith, Hazan, & Goodman, 1988). Through contingent responses towards their own signals, infants experience to be the cause for other's actions. The occurrence of contingent caretaker responses to infants' cues has in fact been identified in diverse cultural environments (Kärtner et al., 2006; Keller, Kärtner, Borke, Yovsi, & Kleis, 2005; Keller, Lohaus, Völker, Cappenberg, & Chasiotis, 1999).

Contingency experience can be assumed to foster the self-perception as an autonomous agent (Keller et al., 1999). The emphasis on autonomous agency, however, can be regarded as central to the cultural model of independence where the self is defined as separate, autonomous, and self-contained. This cultural model is prevalent in Western urban middle-class families. Nso farmers, on the other hand, have been described as following the cultural model of interdependence (Keller, 2007; Nsamenang & Lamb, 1994), where interpersonal fusion is regarded as central with the self-being fluid (Markus & Kitayama, 1991). These differences in cultural models should be associated with a differential emphasis on contingent responsiveness during early parent–infant interactions. In line with these assumptions, cultural differences in the prevalence of contingent responses during mother–infant interactions have been reported with German middle-class mothers reacting significantly more often contingently than Cameroonian Nso farmer mothers.

Nso mother–infant interactions, on the other hand, can be characterized through synchronous rhythms or protosongs (Cowley, 2004). Through rhythmical stimulation and vocalization infants are geared to the rhythm of their mothers experiencing unity rather than separateness (Rabain-Jamain & Sabeau-Jouannet, 1997). When enhancing the prosodic elements of their speech by patterned, repetitive vocalizations, mothers seek and achieve emotional communion with their infants (Stern, Hofer, Haft, & Dore, 1985). This type of verbal/vocal interaction has been described for Japanese and Indian families who can be assumed to emphasize relatedness more than autonomy in their interactional exchanges with their babies. Kajikawa, Amano, and Kondo (2004) described the typical Japanese conversational pattern as highly overlapping compared to the typical Euro American pattern which is characterized by turn-taking communicative acts. In the same vein, Gratier (2003) reported cultural differences between Indian, Indian immigrant, and French mother–infant vocal interactions. A microanalysis of vocal turn-taking and speech overlap time revealed that Indian mother–infant interactions had the shortest space between their vocal turns and more overlap time than the Indian immigrant and the French dyads. Mother-child interactional fusion can therefore be regarded as a model of parenting that supports relatedness and thus the cultural model of interdependence (Keller, 2007) where the self is defined as communal co-agent.

With this study, we would like to analyze the temporal pattern of verbal/vocal exchanges between German middle-class mothers and their infants as representing the independent cultural model and Cameroonian Nso farming mothers and their infants as representing the interdependent cultural model. We use a longitudinal design with assessments during the first three months of the infants in order to be able to test the consistency of socialization experiences over this developmental phase that can be regarded as crucial for the first stage of relationship formation (Keller, 2007).

Based on the assumption of the prevalence of different cultural models as confirmed in previous studies, we assume that German middle-class mothers, in line with their emphasis on autonomy, perform more contingent responses to infant cues; Cameroonian Nso farming mothers, in line with their emphasis on relatedness, perform more synchronous vocalizations with their infants. Due to the minor importance of verbal/vocal exchange in the Nso community, where proximal modes of mother–infant interaction are more emphasized, we expect that the tendency not to respond to infant vocalizations with a verbal/vocal answer is higher for the Nso mothers compared to the German middle-class mothers, who focus on distal parenting strategies.

Furthermore, we hypothesize that – due to the infant's increasing communicative competence with age, – cultural emphases will be enacted more clearly so that communicational differences between the two groups would increase over time.

Table 1
Socio-demographic data

	Muenster, Germany N = 20	Rural Nso, Cameroon N = 28	Total N = 48	χ^2	
Infants					
Girls	45%	57.1%	52.1%	.69	
Firstborn	100%	32.1%	60.4%	22.46***	
	<i>M</i> (S.D.)	<i>M</i> (S.D.)	<i>M</i> (S.D.)	<i>F</i>	η^2
Mothers					
Age	30.7 (3.76)	28.2 ^a (8.09)	29.3 ^c (6.59)	1.68	.04
Education	14.4 (3.23)	8.2 ^b (2.00)	10.8 ^d (4.01)	64.93***	.59

Note. Cross-tables and two-level (cultural group) ANOVAs. η^2 : partial eta-square.

^a N = 25.

^b N = 27.

^c N = 45.

^d N = 47.

*** $p < .001$.

1. Method

1.1. Participants

The 48 mother–infant dyads, who participated in this study, were from 20 German middle-class and 28 Cameroonian Nso farmer families. The German sample was collected in 1993 in Muenster, a city in North West Germany with about 267,000 inhabitants. The Nso sample was collected in 2001/2002 from the Nso ethnic group in Kikaikelaki, a village of about 1500 inhabitants, in the North West province of Cameroon. The socio-demographic profiles of the samples are presented in Table 1.

The mothers of the two cultural groups did not differ with respect to their age, but the mothers from Muenster had a significant higher level of formal education. Whereas most of the Nso mothers had only primary education, almost all mothers from Muenster had completed the “Abitur” (general entrance requirement for university) and many of them had a university degree. All the women from Muenster were living with the father of their child in a stable relationship (married or unmarried). In the Nso sample 62.5% of the mothers were married and the other women were single mothers living with their parents or relatives. Concerning the characteristics of the infants there were differences between the two samples. All the infants from Muenster were firstborns, whereas 68% of the Nso infants had older siblings. However, all infants were delivered without any birth complications and did not have any health problems during the assessment period. Gender composition was held equal, with about 52% female infants in the overall sample.

The described differences between the two samples concerning their level of formal education and the number of children are characteristic for the respective socio-cultural environment. Since these socio-demographic variables are constitutive for the cultural models of independence and interdependence they are not controlled statistically.

1.2. Procedure

The mothers from Muenster were contacted during the last trimester of pregnancy in birth preparation courses. The Nso mothers were contacted during prenatal clinics. In the Nso community, the assessment procedure and aims of the study were explained to the family head (husband, grandparent or lineage head), who had to consent first. The mothers were told that we would like to learn more about parenting and child care in different cultures. Therefore we would like to videotape mother–infant free-play interactions. When the mothers had consented, appointments for filming were made.

The videotaping sessions were carried out when the infants were 4, 8, and 12 weeks old. The videotaping took place on the same day that the child was born plus or minus 2 days. The mothers could choose a time of the day that was convenient for them. Videotapes were recorded when the child was awake and fed. Mothers of both cultural

communities were instructed to play with their infants as they would normally do. The videotaping was about 10 min each. In order to allow the dyads to acclimatize to the videotaping situation only the second five minutes were coded.

After the first videotaping session, socio-demographic information such as age, years of schooling, parity, economic activity, age of household head as well as information concerning delivery and infant's health was assessed in an interview.

The Nso assessments were carried out by a trained female native Nso research assistant. The interviews were conducted in the native language Lamnso. The German assessments were carried out by a female native German research assistant. Confidentiality of the information was assured to all participants.

1.3. Coding

We assessed acoustic contingent and non-contingent maternal reactions towards their infants' vocalizations as well as overlapping vocal/verbal patterns in their communication.

1.3.1. Infant signals

In the first step, on- and off-set of every infant vocalization in the videotape was localized by the help of the software Adobe Audition. When the time span between different vocalizations was less than 1 s, only one vocalization was coded; separate vocalizations were coded when the time span between two events exceeded 1 s. An event was defined by the duration of the infant's vocalization plus 1 s following the vocalization. The events were coded with the help of the software package Interact. Events constituted the timeframes for the coding of maternal vocalizations that were coded by different coders in the second step.

Each infant vocalization was classified according to its valence as negative, neutral, or positive by the help of the video picture. Vegetative (e.g., hic-up, coughing) and effort sounds (e.g. side effect of a movement) were not further analyzed.

1.3.2. Contingent maternal response

If the mother expressed a verbal/vocal signal within the second after the child vocalization or within a break of less than 1 s between two infant vocalizations, a contingent response was coded. The length of the maternal vocalization did not affect the coding as contingent. For further statistical analyses the absolute frequency of contingent responses as well as a ratio score, indicating the proportion of infant signals that were answered contingently by the mother, was used. The ratio score was included in the analysis only for dyads, where the child produced at least three signals.

1.3.3. No maternal response

In case the mother did not produce any verbal or vocal signal during the child event (infant vocalization plus 1 s), no response was coded. Again the absolute frequency of non-response as well as a ratio score, indicating the proportion of infant signals that were not answered by the mother, was calculated for further statistical analyses. The ratio score was included in the analysis only for dyads, where the child produced at least three signals.

1.3.4. Synchronous vocalization

The accurate on- and offsets of both mothers' and infants' verbal/vocal signals during the defined events was assessed with the help of the Adobe Audition software. This allowed for the precise analysis of overlapping maternal verbal/vocal behavior with the infant vocalization. For further statistical analyses, the absolute time of synchronous vocalization and in addition a score indicating the proportion of time that the infant vocalizations were paralleled by maternal vocalizations was calculated.

1.3.5. Reliability

In order to check the reliability a random sample of 10 mother–infant dyads (5 from each cultural community) were coded by two independent coders. Cohen's Kappa was between .84 and .90.

2. Results

2.1. *Infant signals*

The mean frequencies as well as standard deviations of the infant vocalizations of different valences during the three assessments for the two cultural communities are presented in [Table 2](#).

A repeated-measure analysis of variance (ANOVA), with valence and week as within-subjects factors and cultural community as between-subjects factor revealed significant main effects for valence and for cultural community, but not for week. Furthermore, there was a significant valence \times cultural community interaction. The infants produced mostly neutral signals, less negative signals and almost no positive signals. The German infants produced generally more signals than the Nso infants. This difference was most pronounced with respect to negative infant signals, where the German infants produced more than twice as many signals as the Nso infants. Concerning neutral signals the difference was smaller and positive infant signals were very rare in both cultural groups. However, there were no changes in the number of infant signals over the time.

Since we were interested in the development of communicational patterns, we did not include negative infant vocalizations in the further analyses, because negative signals ask for regulation of the negative affect rather than for communication. Due to the low frequency of positive infant signals these were also not included in the further analyses.

2.2. *Contingent maternal responses*

The mean scores and standard deviations of contingent maternal responses across the weeks towards neutral infant vocalizations for the two cultural communities are presented in [Table 3](#).

A repeated-measure analysis of variance (ANOVA), with week as within-subjects factor, cultural community as between-subjects factor, and the frequency of contingent maternal responses as dependent measure revealed a significant main effect for cultural community. Generally, mothers from Muenster showed more contingent responses to their infants' signals than Nso mothers. There was no change in the frequency of contingent maternal responses over time, neither as main effect for week nor as week \times cultural community interaction.

A repeated-measure analysis of variance (ANOVA), with the same factors but the ratio score of contingent responses as dependent measure revealed no differences between the two cultural communities, but a marginally significant main effect for week. Both cultural groups showed an increase in the proportion of contingent responses towards neutral infant vocalizations from week 4 to week 8. From week 8 to week 12 the Nso mothers decreased the proportion of their contingent responses, whereas the mothers from Muenster stayed at the high level of week 8. However, the week \times cultural community interaction was not significant.

2.3. *No maternal response*

The mean scores and standard deviations for no maternal response towards neutral infant vocalizations are presented in [Table 4](#). Repeated-measure analyses of variance (ANOVA), with week as within-subjects factor and cultural community as between-subjects factor revealed no significant main effects. There was neither a difference between the cultural communities in the absolute frequency of no-response or in the proportion of neutral infant signals that were not answered by the mother, nor were there any changes over the time. Nevertheless, there was a marginally significant interaction of week \times cultural community for both measures. In week 4 the mothers from Muenster had a no-response rate that was about twice as high as that of the Nso mothers. However, whereas the mothers from Muenster decreased their no-response rate to week 8, the Nso mothers showed an increase in no-response during the next weeks and thus scored higher than the mothers from Muenster in week 12.

2.4. *Synchronous vocalization*

The mean scores and standard deviations of synchronous vocalization of mother and infant across the weeks for the two cultural communities are presented in [Table 5](#).

Repeated-measure analyses of variance (ANOVA), with week as within-subjects factor and cultural community as between-subjects factor revealed no significant main effects and no interaction for both dependent measures. There was

Table 2
Mean frequency (and standard deviation) of different infant vocalizations during the three assessments for the two cultural communities with statistics for significant main effects and interaction

	Cultural community						Cultural community		Valence		Cultural community × valence	
	Muenster, Germany (N=20)			Rural Nso, Cameroon (N=28)			F(1, 46)	η^2	F(2, 45)	η^2	F(2, 45)	η^2
	Week 4 M (S.D.)	Week 8 M (S.D.)	Week 12 M (S.D.)	Week 4 M (S.D.)	Week 8 M (S.D.)	Week 12 M (S.D.)						
Negative infant signals	18.45 (22.30)	15.00 (22.95)	12.95 (16.70)	13.57 (29.70)	2.75 (8.33)	3.93 (10.84)	10.01**	.18	60.00***	.73	4.45*	.17
Neutral infant signals	35.10 (26.70)	33.05 (22.01)	28.45 (21.85)	20.82 (17.72)	23.00 (26.22)	17.71 (15.93)						
Positive infant signals	.00 (.00)	2.80 (4.88)	2.00 (3.77)	.11 (.42)	1.46 (3.51)	2.36 (3.78)						

Note. Repeated measures ANOVA with between-subjects factor cultural community and within-subjects factors valence of infant signal and week. η^2 : partial eta-square.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3
Contingent maternal response over time for the two cultural communities

	Cultural community				Cultural community		Week		Cultural community × week		
	Muenster (N=20)		Nso (N=25)		F(1, 43)	η^2	F(2, 42)	η^2	F(2, 42)	η^2	
	M	S.D.	M	S.D.							
Absolute frequency											
Week 4	8.5	6.45	6.1	5.27	6.37*	.13	.97	.04	.21	.01	
Week 8	10.3	6.91	6.5	5.49							
Week 12	8.2	6.21	5.2	4.92							
	Muenster (N=17)		Nso (N=20)		F(1, 35)	η^2	F(2, 34)	η^2	F(2, 34)	η^2	
	M	S.D.	M	S.D.							
Ratio score											
Week 4	.25	.12	.30	.16	.05	.00	3.05+	.15	1.54	.08	
Week 8	.35	.13	.33	.18							
Week 12	.34	.18	.28	.19							

Note. Repeated measures ANOVA with between-subjects factor cultural community and within-subjects factor week. η^2 : partial eta-square.

+ $p < .10$.

* $p < .05$.

Table 4
No maternal response over time for the two cultural communities

	Cultural community				Cultural community		Week		Cultural community × week		
	Muenster (N=20)		Nso (N=25)		F(1, 43)	η^2	F(2, 42)	η^2	F(2, 42)	η^2	
	M	S.D.	M	S.D.							
Absolute frequency											
Week 4	5.1	4.73	3.1	3.34	.58	.01	.39	.02	2.68 ^a	.11	
Week 8	4.0	2.78	3.6	3.48							
Week 12	3.4	3.19	3.8	4.07							
	Muenster (N=17)		Nso (N=20)		F(1, 35)	η^2	F(2, 34)	η^2	F(2, 34)	η^2	
	M	S.D.	M	S.D.							
Ratio score											
Week 4	.21	.15	.11	.11	.02	.00	.23	.01	2.88 ^a	.15	
Week 8	.16	.09	.19	.21							
Week 12	.16	.15	.21	.23							

Note. Repeated measures ANOVA with between-subjects factor cultural community and within-subjects factor week. η^2 : partial eta-square.

^a $p < .10$.

no cultural difference in the absolute time of synchronous vocalization. However, the Nso mothers paralleled a higher proportion of infant vocalizations than the mothers from Muenster although this difference was also not statistically significant. Over the time there were no significant changes in the patterns of synchronous vocalization. Concerning the absolute time of synchronous vocalization the Nso mothers showed an extreme peak at week 8, but this effect was produced by two outliers and thus reflected no systematic pattern.

3. Discussion

The results of this study have revealed that the German infants from Muenster vocalized more than the rural Nso infants during their first three months of life. This cultural difference was most pronounced with respect to negative infant vocalizations. This might reflect the consequence of Nso mothers heightened sensitivity to negative infant signals and

Table 5
Synchronous vocalizations for the two cultural communities

	Cultural community				Cultural community		Week		Cultural community × week	
	Muenster (N = 20)		Nso (N = 25)		F(1, 43)	η^2	F(2, 42)	η^2	F(2, 42)	η^2
	M	S.D.	M	S.D.						
Absolute time in seconds										
Week 4	5.14	5.64	3.65	4.23	.10	.01	.67	.03	.41	.02
Week 8	5.01	5.84	6.20	13.05						
Week 12	4.17	4.59	3.18	4.00						
Ratio score										
Week 4	.19	.16	.26	.23	1.98	.04	.07	.01	.41	.02
Week 8	.19	.16	.28	.28						
Week 12	.21	.19	.24	.23						

Note. Repeated measures ANOVA with between-subjects factor cultural community and within-subjects factor week. η^2 : partial eta-square.

their prompt or even anticipatory regulation (Keller, Völker, & Yovsi, 2005; Yovsi, 2003). The distributional differences of infant signals can be regarded as influenced by the socio-cultural environment so that even infants as young as 4 weeks old demonstrate the first cultural learning experiences in their behavior.

With respect to the contingency experiences of the infant we did not find the expected clear differences between the two cultural communities. The absolute number of contingent maternal responses was higher for the infants from Muenster compared to the Nso infants, but the ratio score revealed no cultural main effect. The fact that the infants from Muenster produced more vocalizations may explain this result. Although the proportion of infant signals caregivers respond to is typically used in the analysis of nonverbal contingency experiences of infants (cf. Kärtner et al., 2006) researchers in the field of parental conversational styles argue that the sheer amount of different types of experiences is more informative than proportions (e.g., Reese & Fivush, 1993). Thus it is an ongoing discussion whether the absolute experience or a ratio score is the more meaningful measure. On the one hand, mothers have more often the chance to respond contingently if their infants produce more signals, on the other hand it has been shown that the expressiveness of infants also depends on the number of maternal signals (Symons & Moran, 1994). In order to fully understand the contingency pattern between mother and infant it would be helpful to assess a baseline of maternal vocalizations, too.

Concerning the tendency not to respond to infant signals there was no main effect for cultural community but an interaction effect. The non-response tendency increased with age of the infants for the Nso mothers but not for the mothers from Muenster. Thus, our study confirms that the importance of verbal/vocal responsiveness differs between the studied cultural environments. This result corresponds to other studies demonstrating that the verbal/vocal exchange as part of a distal interaction strategy is not the primary focus of Nso mothers who rely more on a proximal interaction style with body contact and body stimulation as the primary modes of exchange (Keller, 2007). As expected, these interaction patterns become more pronounced with progressing development of the children.

With respect to synchronous vocalizations of mother and infant there was a slight tendency that the Nso mothers paralleled a higher proportion of their infants' vocalizations. Since the Nso infants vocalized less than the infants from Muenster it is not surprising that the absolute time of synchronous vocalization did not differ between the two cultural groups. However, it would be informative again to include a baseline of maternal vocalizations into the analysis. Although other studies have revealed that the amount of maternal vocal/verbal behavior in mother–infant interactions differs significantly between rural Nso mothers and urban German middle-class mothers (Keller, 2007), it would be necessary for future studies to assess all these measures in one study. However, it can be assumed that the proportion of maternal vocalizations that are synchronous to infant vocalizations is also higher in the Nso community. The absence of this difference with respect to the absolute time of synchronous vocalization might reflect the fact that the Nso do not emphasize the verbal/vocal exchange as much as the dyads from Muenster and thus rural Nso mothers as well as infants vocalize less than their counterparts from Muenster.

In conclusion, our study provides support for the assumption that the temporal structure of early caregiver–child interactions can follow two different modes that were described by Stern (1977) as the co-action mode and the alternating mode. Both modes are parts of a universal parenting repertoire that is complementary to the limited communicational and cognitive competencies of infants and thus shown by all mothers in our study. Nevertheless

cultural emphases differ. Although not all our hypotheses were confirmed by statistically significant differences in the maternal communication behavior the reported cultural differences are nonetheless meaningful, because mothers are not the only communicational partners of infants. Rather infants also interact with fathers, siblings, and other caregivers and all these interactional partners can be expected to follow the respective cultural model of communication and thus intensify the infants' experiences. Since infancy can be regarded as a phase where basic modes of psychological functioning are canalized, it can be expected that different experiences have different developmental consequences (Keller et al., 2004): With respect to the rhythmic aspects in the regulation of interaction, Stern, Spieker, and MacKain (1982) have assumed that they are essential in the development of cognitive competence. One could speculate that the alternating (turn taking) mode could be associated with a more analytic style of cognition whereas the co-action (synchronous) mode could be associated with holistic thinking (Kitayama & Uchida, 2005; Nisbett & Miyamoto, 2005). Both modes are part of the cognitive system of any individual and any culture as are the two interactional modes, however they may be differently emphasized as our data suggest. Thus, cultural rules and scripts provide the necessary frame for all meaning-making activities, but the particular structure of a frame is culturally variable.

Our study has also limitations. The sample sizes are rather small. This is a consequence of the cross-cultural longitudinal design and the extremely time consuming micro-analytic methodology. Moreover, recruiting large sample sizes of one cohort in traditional villages is difficult, since birth rates are limited. The selectivity of our theoretically guided recruitment is also a restraining factor for Western middle-class families.

Our samples belong to different time historical epochs, since the German sample was assessed 10 years prior to the Nso sample. These differences however, do not weaken the results, because the analysis of the relation between socio-historical changes and parenting behavior has revealed a universal trend towards independent parenting focusing on distal modes (Keller, Borke, Yovsi, Lohaus, & Jensen, 2005). Due to globalization and increasing formal education in rural Cameroon it could be assumed that vocal/verbal exchange becomes more pronounced in this context and therefore the interaction patterns become more equal.

Our study contributes to the understanding of the cultures of infancy in characterizing different communicational styles. More studies are needed to characterize similarities and differences in more detail across cultures as well as their developmental consequences.

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