ETH☉S

**ORIGINAL ARTICLE**

# Growing up in Nso: Changes and continuities in children's relational networks during the first three years of life

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[Correction added on 02 February 2023, after first online publication: The figure 1 has been replaced with the updated.]

**Abstract**

It is an undisputed fact among attachment researchers that children need stability and continuity in their caregiving environment for optimal developmental outcomes. However, anthropological studies show that informal and often temporally limited kinship-based foster care, including changes of children's primary caregivers, is widespread in some cultural contexts and considered normative and thus beneficial for children. Based on ethnographic interviews with Nso families in northwestern Cameroon, we analyzed the dynamics of caregiving arrangements and relational networks during infancy and early childhood. Exploring household compositions, caregiving responsibilities, children's preferred caregivers, and foster care arrangements revealed multiple caregiver networks, with the importance of the mother decreasing and the importance of alloparents and peers increasing as the children grow older. Also, families have fluid boundaries, with about one-third of the children changing households in the first three years of life. The Nso children's experiences reflect a relational cultural model of infant care as a cooperative task and a communal conception of attachment. The results are discussed in relation to attachment theory's claims about universal patterns of development.

**KEYWORDS**
attachment, alloparenting, foster parenting, Nso farmer

**Abstract in Lamnso, the native language of the Nso:**

Mo wón Nso'o naarì vinyo ve Nso'.

Á shetì shètìn. Fə̀m mo á bínsi ji á leey a fo awune kijuŋ, awune yò' fə̀m li ghán e tàr vinyo ve wónlě suúsin wó limè, shaa fo mbìy, yii ansìy mó a ge', e kfə̀n a leéy mo vinyo veé lav vi yii gháné. Yii bèy, fó keerí nsàv vinyò vìn mo ví kér fó a dzə, bo kí dzə`é shií fóo way ŋàŋ e tàr. Á lóo kfən e dzə́tí ye vé ye'éyi dzə́ti kùm mo wìr msòŋ-eè ràmèn, e kfə̀ə se Nso' se sí dzə̀ə`é Kuy-Ntoŋrì Cameroone, bo kinyo kee ji á tárnín a dzə`é dzə̀ə rə̀né, ansìy vee mo vé-eè leey fo awune, aá dzə`ə́abór, ǎ ghan se vé-eè dzə̀ə́kúy kuyín kí dzə`kinyo ke á lìin ghán, e sàr. Fóo kà'ày vinyo veé lav, à lim ye a leéy fo wíri, bo taàka leéy ye a leéy fo wóné, aansìy vée lìy wíri din mo wóné lóo kuy, kí wàa fàr lim ayĭy won. Kimó' kí, njàvsìn nə̀ə́ne e kfə̀ə símó' sí, e yìi, kinto'nèn ke won kí ló, kí wàa jì ji kí kúy, a meé viyá vitaár, aá kúvsín ne melav. Wón Nso'o dzə`á keérí vifíi mo ví lóvsin wùn wùn à lìi wòŋ, à taámé si, mo dzə`á lìy wón ve teríi wír dzə̀m, e dzə̀ə ye á wáa dzə amò'ón. Laàyeé kisuŋnìn dzə`fóo barír, e dìn mo kitú ke nsay ki kér kikuúyí kee réŋ kí.

Most children in the world grow up with multiple caregivers, with substantial variability in the number and characteristics of the persons involved as well as their responsibilities in childcare (see Keller and Bard, 2017; Otto and Keller, 2014; Quinn and Mageo, 2013). Anthropologists have documented this diversity of caregiving arrangements, among others, in hunter-gatherer communities like the Congo Basin-based Aka (Hewlett, 1991; Meehan and Hawks, 2013) and Efe (Tronick, Morelli, and Winn, 1987) and farming villagers like the Ivorian Beng (Gottlieb, 2014) or the Nigerian Hausa (Marvin et al., 1977). Also, children of various formerly rural (farming or seminomadic) ethnic groups in informal urban settlements in Kenya have been studied in terms of their social networks (Salinas et al., 2019). These studies show that the presence of a caregiver may not necessarily be associated with the same function across cultural environments. A broad distinction can be made between caregiving arrangements with functional specialization, where certain caregivers assume only certain responsibilities, and nonspecialization, where all caregivers share all responsibilities and act interchangeably (Keller and Chaudhary, 2017). However, there is little systematic research about the stability and change of these care networks in early childhood in different cultural contexts.

Gabriel Scheidecker (forthcoming) has conducted the most comprehensive study in meticulously documenting the social worlds of small children during their first three years in villages in southern Madagascar. Spot observations revealed that the composition of caregivers change substantially over time. During the first year of life, mothers are present around 40 to 50 percent of daytime, mainly breastfeeding. Then the mother's presence declines to around 10 percent. Children between 10 and 13 years old become prominent caregivers during the second half of the first year, and two-to-five-year-old children become the dominant companions from the second year on. Other adults, including grandparents, play rather minor parts as children's social partners. Whereas mothers reported some affective components in relationships with their babies (besides the dominant role of breastfeeding), caregivers believe that infants miss their mothers mainly for breastfeeding without an underlying emotional motivation. The peer group clearly plays the dominant role in socializing small children in these Madagascan villages (Scheidecker, forthcoming).

Multiple caregiving arrangements are mainly located in extended households. It seems that co-residence goes along with higher accessibility and willingness to participate in childcare (Chen, Liu, and Mair, 2011;

De Villiers, 2011). Thus, changes in children's households most often accompany changes in their caregiving network. Despite the acknowledgement of multiple caregiving arrangements, developmental psychologists and childcare practitioners mostly assume that children spend their childhood living in the same household with the same family members, claiming that this continuity is a condition for healthy child development (Forslund et al., 2021; Miranda et al., 2019). In these so-called stable environments, children change households only if public institutions declare the family to be unable to raise them (e.g., Child Welfare Information Gateway, 2020). Since children in foster care are assumed to lack the experience of long-lasting and reliable relationships, foster care in general is considered likely to provoke "attachment injuries" (Miranda et al., 2019, 401) and disorganized attachments, which in turn are associated with negative outcomes in later life such as "an antisocial, emotionally aloof, manipulative personality, with very little resiliency" (Miranda et al., 2019, 399). Also, family reunifications following long-term foster care are considered critical, although they may represent a further rupture of formed relationships (Bellamy, 2008; Miranda et al., 2019).

The emphasis on the importance of one or a few stable primary caregivers in the first years of life is mainly based on attachment theory. Attachment relationships are viewed as emotional bonds that children form with specific others during the first year of life, embodying spatial closeness and timely extension (Ainsworth, Bell, and Stayton, 1974). Although attachment researchers recognize multiple caregiving (e.g., Forslund et al., 2021), they largely maintain the Bowlby/Ainsworth (Ainsworth et al., 1978; Bowlby, 1988) assumption of the uniqueness and primacy of the mother for children's attachment as the basis for healthy developmental trajectories (e.g., Cassidy, 2008; Mesman, van IJzendoorn, and Sagi-Schwartz, 2016). Thus, Bowlby (1988) argued that the mother as the natural primary caregiver should raise her child from birth to independence. Attachment researchers today recommend that changes of primary caregivers should be avoided under all circumstances (Forslund et al., 2021; Miranda et al., 2019).

However, evidence from non-Western contexts shows that changes in children's care networks, including temporally limited foster care, are common in many societies and considered normative and thus beneficial for children (e.g., Isiugo-Abanihe, 1985; Leinaweaver, 2014). For example, it is common practice in Baatombu villages in Benin that a child is sent to live with extended family members after the birth of a younger sibling. Children moving in with alloparents helps to strengthen mutual-help networks and is believed to provide a better education. This assumption is so common that among more than 150 older people interviewed, only two had stayed with their biological parents during their entire childhood (Alber, 2004). Similarly, in Batouri, East Cameroon, children are not considered to belong to the parents but rights to claim children are constantly negotiated, namely, the right to adopt a child from extended family members for company or support with household chores. It is especially common between sisters and brothers to exchange children (Notermans, 2004). Fonseca (2004) describes how children in an urban working-class population in Brazil circulate between different households of extended family members, neighbors, and older siblings, staying for weeks, years, or sometimes forever, and often deciding themselves where they want to live. Similarly, high rates of informal foster care have been reported for Ecuador (Walmsley, 2008), Black communities in the United States (Miller, 1998), and for several cultural contexts in Oceania (Brady, 2019). Jessaca Leinaweaver (2014) argues that foster care is beneficial when it expands the pool of caregivers rather than replacing one caregiver with another, when allows children to have positive learning opportunities, or when children are given some autonomy in choosing their place of residence.

Our argument so far can be summarized as outlining discrepancies between anthropological findings on normative changes in children's social networks—including household changes—and the assumptions of attachment researchers about the need for stable caregiving arrangements. We will use the example of the Nso to analyze how children's social networks are composed, how they may change during the first three years of life, and how they relate to local conceptions of attachment. Supplementary material

# THE PRESENT STUDY

This study aims to elucidate compositions and changes in children's social networks during the first three years of life in Northwest Cameroonian Nso farmer families. The investigation of the temporal dynamics in children's social networks in different cultural contexts is crucial for attachment research since the stability of their social networks or how these networks change over time while children grow up is inevitably related to the resulting attachment relationships. We selected this place for data collection because we know that the Nso practice multiple caregiving. So far, however, we do not know how children's relational networks are exactly composed and what changes they undergo within the first three years of life. We covered this age period as the accomplishment of fundamental developmental tasks in this period are known to provide a basis for later developmental outcomes (Thompson, 2001). Also, most anthropological studies investigating foster care focus on older children, and attachment researchers argue that stable caregiving environments are especially important in the first years of life.

The study is exploratory in nature. However, we developed research questions to guide our analysis. As in-depth information on the caregivers' involvement in childcare is crucial for identifying children's relational networks and exploring caregivers' functional (non-) specialization, the first research question is: How are children's caregiving networks composed, and what activities do the respective caregivers perform with the child? How do children's caregiving networks change over the first three years?

To identify potential attachment figures and differences among the caregivers, the second research question is: Who are the children's preferred caregivers? How do children's preferred caregivers change over the first three years?

Since co-residence has been demonstrated to go along with higher accessibility and willingness to participate in taking care of children (Chen, Liu, and Mair, 2011; De Villiers, 2011), higher involvement in childcare and closer relationships may result depending on the household composition. It is important to account not only for the caregivers who make up children's relationship networks but also for the settings in which children live, as they inevitably influence the care arrangement. Therefore, the third research question is: How are children's households composed? Do children change the household during the first three years? What are the reasons for possible household changes?

# THE NSO FROM THE GRASSLANDS OF THE NORTHWEST OF CAMEROON

The Nso live in the northeastern corner of Cameroon's Northwest region. Their total population is estimated to comprise 217,000 people (Goheen, 1996). The majority of Nso are Christians, and one-third are Muslims. However, they are still deeply attached to traditional beliefs (Mbaku, 2005). The Nso have traditionally been ruled by a king (Fon) and a hierarchical structure of nobles. However, the ongoing conflict between the Cameroonian government and the English-speaking minority (which includes the Nso) has recently led to increased social and political disturbances in the area in which the Nso live. While the Cameroonian government mainly represents the interests of the French-speaking majority, there are growing separatist movements among the English-speaking population that are suppressed by the government. The ongoing conflict has destabilized the traditional order among the Nso, forcing the Fon to leave his residence and seek safety. Now, the political situation of the Nso is unstable, marked by occasional armed conflicts between the government and separatists. In the past decade, governance has been a collaboration between traditional rulers led by the Fon and divisional officers led by the senior divisional officer.

The Nso are traditionally farming people, with women cultivating food crops (e.g., corn, beans) to feed the family and men growing cash crops (e.g., coffee, kola nut). Villages are composed of patrilineal compounds, where adult sons or brothers live with their nuclear families in the same neighborhood. Households usually comprise six to eight persons (Goheen, 1996), including parents, their children, and additional extended family members. The social life of men and women is strictly separated. Women

socialize in women's groups that share salt or oil, and members cooperate in ensuring food supply for the family. Men affiliate in secret societies and care about the perpetuation of traditions. Gender separation is assumed to start at around seven to eight years when girls begin to work in the fields with their mothers (Goheen, 1996). At that time, boys may become part of the male world. Before then, boys live in the female world, participating in all domestic activities, including childcare. Large families with many children are favored since children form the basis of symbolic and material wealth (Nsamenang, 1992a; Verhoef, 2005). Children grow up in a dense social network, including parents, siblings, grandparents, and neighbors (Yovsi, 2003). Older children are expected to help in the fields, do household chores, and take care of younger siblings (Mbaku, 2005). Like in other non-Western cultures (Weisner and Gallimore, 1977), the kinship term *sibling* is not reserved for biological siblings but includes other related children (e.g., cousins, aunts, uncles) up to the age of 15 years who live in the same household or compound.

Formal school education is highly valued among the Nso. Most parents have received at least some education, and many completed primary school (Keller, 2007; Morelli and Verhoef, 1999; Yovsi, 2003). Primary schools are located in villages and thus within reach of almost all children. Secondary schools are in towns and therefore not accessible to everybody. Children often move from the village to the town to attend secondary school, where they are placed with relatives and required to participate in all household chores, including childcare.

## SOCIALIZATION STRATEGIES AMONG THE NSO

Nso mothers understand good parenting as teaching respect for elders, social harmony, conformity, social responsibility, and putting one's own interests aside for the good of the group (Nsamenang and Lamb, 1994; Yovsi, 2003). While they strive for their children to acquire a "good character"—for example, through learning to share with others and obey caregivers—socialization goals such as expressing one's own ideas, being proud of one's own accomplishments, and being different from others have minor importance or are even considered undesirable (Keller et al., 2006; Nsamenang, 1992a; Nsamenang and Lamb, 1994; Tchombe, 1997). The communal socialization goals can be traced back to the general norms of the Nso community, which is based on harmonious and hierarchical relationships, collective responsibility, and mutual sharing (Goheen, 1996; Mbaku, 2005; Nsamenang and Lamb, 1994; Verhoef, 2005). Consequently, childcare is also considered a collective responsibility (Lamm, 2008; Nsamenang and Lamb, 1994).

The normative cultural expectation of a good child is a calm child—one who does not express emotions, especially negative ones. This is reflected in the Lamnso term *Wan wo nyaang*, which can be translated to "a peaceful child" who is quiet and calm, not demanding, does not cry unnecessarily, is adaptive to strangers, and eats what is given. When children successfully control negative emotions, parents praise them by saying "*A dze ntav*" (You are tough), recognizing the child's growing maturity. A calm child fits well into the social milieu of the Nso and can be cared for by multiple caregivers (Otto, 2008).

Childcare is a co-occurring activity. For example, caregivers perform household chores while carrying or nursing a baby. Hence, infants are constantly close to their caregivers but never the center of attention, with little face-to-face contact. The main channel of communication is through body contact and stimulation (Keller et al., 2005). Babies are rhythmically stimulated through their caregivers' movements while attached to their bodies or explicitly with a special lifting up-and-down technique. The Nso consider lifting up and down an essential parenting strategy, convinced that babies cannot develop adequately without it (Keller, Yovsi, and Voelker, 2002). It is supposed to excite children while also testing their temperament. Depending on whether they start laughing or crying during the up-and-down lifting, children are regarded as tough or anxious/weak, which leads to repeating the movement to reduce the anxiety. Parenting is generally expected to foster a symbiosis between children and caregivers—that is, to foster the children's perception of how they are connected to their caregivers, the larger family, and the community. This is reflected in the term *Koiti*, a loving hug between child and caregiver, with arms embraced and the child's head resting on the caregiver's lap. Caregivers tell the child, "*Koiti mo kitavin*" (Give me a big hug), when they want to feel the connection to the child, as a way of reassuring themselves that the child still loves, depends,

**TABLE 1**    Demographic characteristics of the study sample

| Demographic characteristic | Infants (*n* = 30) |
| --- | --- |
| Gender of infant | |
| Female | 14 (46.7%) |
| Male | 16 (53.3%) |
| Infant's age in years (*SD*) | 3.17 (0.5) |
| Number of siblings (*SD; Range*) | 2.63 (1.87; 0–6) |
| Mother's age in years (*SD; Range*) | 28.93 (5.7; 18–42) |
| Father's age in years (*SD; Range*) | 37.19 (8.19; 23–56) |
| Mother's age at birth of first child (*SD; Range*) | 19.10 (2.87; 14–26) |
| Father's age at birth of first child (*SD; Range*) | 26.59 (5; 20–36) |
| Mother's years of education (*SD; Range*) | 7.47 (1.57; 3–12) |
| Father's years of education (*SD; Range*) | 7.52 (1.58; 3–14) |
| Religion of parents | |
| Christian | 22 (73.3%) |
| Muslim | 8 (26.7%) |
| Civil status of parents | |
| Married | 20 (66.7%) |
| Single | 10 (33.3%) |
| Monogamous household | 30 (100%) |

and connects to them. Since this pattern is carried out by multiple caregivers, individual relationships are not emphasized (Keller, 2016).

## METHODS

### Research context

The Nso people have cooperated with us in diverse research projects between 1996 and 2015 (for summaries, see Keller, 2007, 2022; Keller and Kärtner, 2013). We were well integrated into the community and especially protected by the Fon. We supported the community with different means, with the most significant project being the co-funding of a health center. Since we do not speak the local language (Lamnso), we cooperated with three bilingual research assistants (Lamnso and English).

### Participants

Thirty Nso families with a three-year-old target child participated in this study (see Table 1 for demographic characteristics). We conducted interviews with one of the adult main caregivers of the target children. All respondents were female—mostly mothers, and sometimes grandmothers or aunts. The families lived in Kumbo (*n* = 8) or Kovifem (*n* = 22). With about 80,000 inhabitants, Kumbo is the capital of Bui division, which is equivalent to Banso, the traditional land of the Nso. The major palace of the Fon is in Kumbo, as is the residence of the Catholic bishop. Kumbo has a Catholic church and a mosque, two hospitals, several schools, some stores and restaurants, and daily markets where farmers from the surrounding villages sell food items. Kovifem is a traditional village with the oldest

**TABLE 2**    Household characteristics of the study sample

| Household characteristic | Families (*n* = 30) |
|---|---|
| Household size (*SD; Range*) | 6.23 (1.98; 3–10) |
| Nuclear family household | 18 (60%) |
| Extended family household | 12 (40%) |
|    Co-residing persons of the parental or children's generation | 6 (20%) |
|    Co-residing persons of the grandparental generation | 6 (20%) |
| Electricity at home | 8 (26.7%) |
| Television at home | 2 (6.7%) |
| Radio at home | 5 (16.7%) |
| Mobile phone at home | 25 (83.3%) |
| Transportation | |
|    Car | 0 |
|    Motorbike | 9 (30%) |
| Subsistence farming | 18 (60%) |
|    Families living in Kovifem | 15 (50%) |
|    Families living in Kumbo | 3 (10%) |

palace of the Fon, a weekly market, no electricity, a primary school, and a community health center under construction. Family and household composition in the rural and urban parts of Banso are very similar.

All families lived in mud-brick houses composed of 4.6 rooms on average, including a fire-wood kitchen. Households consisted of 6.2 persons on average, 2.4 adults and 3.8 children. In most households (63.3 percent), the senior male household member (father, grandfather, or granduncle) made major decisions concerning the family. In households without male adults, either mothers, grandmothers or grandfathers living in the neighboring house decided about family affairs. See Table 2 for further information on the participants' households.

## Data collection

Families were recruited after the study's search for participants was posted on the market. Those interested in participating left their contact details, sent a message to the local health center, or came directly to the health center for the interview.

The interviews took place in the local health center or in the families' houses. Two local research assistants conducted the interviews with the first author present. The assistants were bilingual (English, Lamnso) native Nso and used Lamnso as the interview language. The interview questions were pretested in English for comprehension and appropriateness in the Nso context with bilingual Nso in Kumbo.

To gain information about the relational networks, we conducted semi-structured ethnographic interviews aimed at assessing family and household composition, caregiving arrangements, and preferred caregivers of the children (see appendix for interview lead questions). To reconstruct caregiving arrangements about the past years, we scheduled certain ages according to the following developmental milestones: when the infant was just born (first few months), was crawling but not yet walking (second half of the first year), was walking but not yet talking (second year), and started talking (third year). This approach has also been used by Scheidecker (forthcoming) and has proved advantageous in communities where birthdays are not celebrated and chronological age has no meaning in everyday life.

## Data analysis

This is an exploratory and descriptive study. We analyzed the interviews using qualitative content analysis (Mayring, 1994) focusing on the following dimensions.

## Main caregivers

For each participant mentioned in the interviews, we coded which activities they performed with the target child (feeding, bathing, diapering, back-carrying, breastfeeding, putting to sleep, soothing, and playing). Playing was defined as engagement in activity for enjoyment or recreation, which also serves to keep children calm and to prevent them from crying. Furthermore, we coded the periods of time each caregiver was in charge. Caregivers reported to participate regularly in these daily caregiving activities were defined as main caregivers of the target children. This procedure was repeated for the different stages of development (first few months, second half of the first year, second year, third year).

## Preferred caregivers

We assessed the children's favorite caregivers (i.e., someone the child preferred to spend time with and sought their proximity) and coded their family relations. To analyze the mentioned reasons for these preferences, we inductively developed categories from the material resulting in the following codes: availability, food provision, affection, play, social activities, back-carrying, and no beating.

## Household changes of target children

We analyzed the described household compositions for number of persons, ages, and family relations. If a child had moved from one household to another, we assessed the composition of the new household as well. For exploring the exact circumstances of the household changes, we differentiated three categories: moving back to the original household, staying in the new household, and living in both households. Reasons that led to the household changes were coded inductively, resulting in three categories: relief of the mother, decision of the child, and no reason.

All interviews were coded by two persons. Interrater reliability was calculated as percentage agreement and resulted in 94–100 percent for the different categories. Disagreements were discussed between coders and dissolved by forced consent.

## RESULTS

## Main caregivers

For more than 90 percent of the infants, the mother was named as main caregiver just after birth. During the first months, mothers were responsible for satisfying physiological as well as social needs, usually spending the whole day with their infants. One mother described it this way: "At that time, she was mostly in the house or went with me to the farm. I was the person she always saw around the house, and I tried to respond to every one of her needs." In the second half of the first year, maternal involvement declined, and this process continued in the second and third year (see Figure 1). However, over the whole period of infancy, mothers were the most frequently mentioned main caregivers. Even in the third year of life, more than 40 percent of the children were mainly in maternal care. The involvement of other family
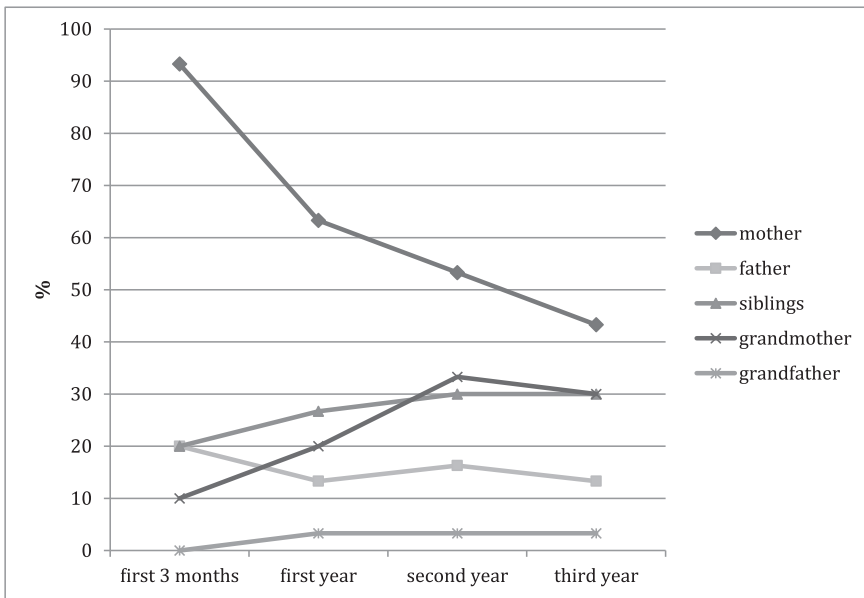
**FIGURE 1** Main caregivers involved with the target children during the first three years of life

members, especially grandmothers and siblings, increased after the first months. Just after birth, only about 10 percent of the infants were regularly taken care of by grandmothers, rising to over 30 percent in the second year. Similarly, siblings' involvement rose from 20 percent during the first months to about 30 percent from the crawling stage on. Consistent with the local conception of siblings, cousins and aunts or uncles were additionally included with biological siblings (aged 4–15 years). The fathers' involvement— who were as frequently mentioned as main caregivers as siblings during the first months, taking care of 20 percent of the infants—slightly declined as the infants' motor development progressed and grandmothers and siblings became more involved. At three years, only 10 percent of the fathers were regularly involved in caregiving. Only one family reported the co-residing grandfather as main caregiver after the first months of life.

In terms of caregiving activities, there were no differences reported between the individual persons involved in childcare as the following interview extract illustrates: "All people living in that house care for him. He is used to everybody and all carry him along, feed him, pet him, play with him—just everything he needs." Regardless of whether the caregiver was a parent, grandparent, sibling, or other relative, that person performed all necessary care activities, including feeding, bathing, diapering, playing, taking children on walks or visits, and carrying them on their back. Only breastfeeding was reserved for the mothers. The time periods when main caregivers were in charge usually comprised the whole day. Again, there were no differences between individual caregivers except for siblings who usually took care after school and on weekends.

Comparing the caregiving patterns of boys and girls did not reveal many differences. Parental involvement seemed to be a little more pronounced with girls, as the decline of maternal caregiving was less steep for girls, and the fathers' involvement even increased through the second and third year. In contrast, fathers of infant boys decreased their caregiving involvement during this period.

## Preferred caregivers

When asked to name a single caregiver whom the target child especially preferred at the time of the interview, 17 percent of the informants denied that the child had any preferences. However, most target

children were reported having preferences (see Table 3), namely a sibling defined as above (37 percent of the children), the grandmother (20 percent), and the father (13 percent). Few children preferred the grandfather or grandaunt. The mother was nominated as favorite caregiver only in one single case.

Comparing current preferences (at age three) with the children's preferences during their first year revealed that 77 percent of these preferences were stable. The changes in preferences that did occur confirm the decreasing maternal importance: those four infants who preferred the mother as caregiver during the first year preferred siblings or grandmothers at age three, and one child did not have a preferred caregiver any longer.

However, boys and girls differ clearly regarding their caregiver preferences, especially with respect to their preferences for parents. Whereas five girls (36 percent) preferred the father or the mother, none of the boys had a parent as favorite caregiver. Most boys preferred siblings as caregivers (44 percent), which was the case only for four girls. Grandmothers were equally often preferred by boys and girls, and grandfathers were favored by two boys only.

Considering the household size also sheds some light on the children's caregiver preferences. The preference of fathers only occurred in smaller households constituted of five or fewer persons, mainly representing nuclear families (75 percent). Siblings were less preferred in smaller households than in bigger households, where 50 percent of the children were reported preferring a sibling.

Looking at the preferred sibling caregivers in more detail revealed interesting age and gender distributions. Three of the favorite caregivers were sisters aged four to six years, four siblings (one brother, two sisters, one female cousin) were 10 to 12 years, and five siblings (one brother, two uncles, two sisters) were 15 years old. Even though siblings of all ages and genders are involved in caregiving depending on their availability, infants' preferences indicate clear preferences for girls when the caregivers are younger, independent of the infants' gender.

A caregiver's availability plays an important role for the development of caregiver preferences. More than one-third of the preferences during the first year of life was explained by the caregiver's constant availability (see Table 4). For example, a 38-year-old mother of six described her son's preferences for the grandmother as follows: "Because she was always in the house and they got used to each other." A second main reason for caregiver preferences was giving food. This reason frequently applied to fathers, as a 28-year-old mother of four children explained her daughter's preference for her husband: "When he comes back from work, he always brings home something nice for her to eat." Affection, described in statements like "he just likes her," was also named as an explanation for younger children's preferences by almost a quarter of all respondents. Some preferences were explained by the fact that the caregivers played with the infant or participated in social activities, for example, taking them to church or on visits. Whereas availability, affection, and social activities became less important for older children's preferences, giving food was the main reason for caregiver preferences at three years of age. Additionally, back-carrying became a popular reason mentioned by five interviewees for present preferences, but never for past preferences. Three-year-olds are no longer carried on the back throughout the day like younger infants. As they still like to be carried, they preferred caregivers who did so. Another reason for caregiver preferences reflecting the changing role of the three-year-olds was expressed in the statement "because she doesn't beat her," mentioned by three informants. Three-year-olds are expected to walk on errands or complete simple household chores. Noncompliance is punished, so children preferred caregivers who were not too strict or did not punish physically.

## Household changes of target children

Eleven children (36.7 percent; seven boys, four girls) changed household before the age of three. The mean age at the time of household change was 2.0 years (*Range* 1.42–3.0). Ten children changing households moved in with grandparents, and one child moved to the grandaunts' house. Those children who changed households had fewer siblings and slightly younger mothers with more formal school education than children who stayed in their original households. Reasons for and durations of household changes

**TABLE 3**  Preferred caregivers of the target children

| | Mother | Father | Siblings | Grandmother | Grandfather | Grandaunt | Uncle | No preference |
|---|---|---|---|---|---|---|---|---|
| Preferences during first year of life ($n = 30$) | 4 (13.3%) | 6 (20.0%) | 8 (26.7%) | 5 (16.7%) | 2 (6.7%) | 0 (0%) | 1 (3.3%) | 4 (13.3%) |
| Present preferences ($n = 30$) | 1 (3.3%) | 4 (13.3%) | 11 (36.7%) | 6 (20.0%) | 2 (6.7%) | 1 (3.3%) | 0 (0%) | 5 (16.7%) |
| Boys ($n = 16$) | 0 (0%) | 0 (0%) | 7 (43.8%) | 3 (18.8%) | 2 (12.5%) | 1 (6.3%) | 0 (0%) | 3 (18.8%) |
| Girls ($n = 14$) | 1 (7.1%) | 4 (28.6%) | 4 (28.6%) | 3 (21.4%) | 0 (0%) | 0 (0%) | 0 (0%) | 2 (14.3%) |
| Children in small households (< 6 persons) ($n = 16$) | 0 (0%) | 4 (25.0%) | 4 (25.0%) | 3 (18.8%) | 2 (12.5%) | 0 (0%) | 0 (0%) | 3 (18.8%) |
| Children in bigger households (6 or more persons) ($n = 14$) | 1 (7.1%) | 0 (0%) | 7 (50%) | 3 (21.4%) | 0 (0%) | 1 (7.1%) | 0 (0%) | 2 (14.3%) |

**TABLE 4** Reasons for children's caregiver preferences

| Reasons for preferences | Frequency of mentioned reasons for preferences during the first year of life ($n = 30$) | Frequency of mentioned reasons for the present preferences ($n = 30$) |
|---|---|---|
| Availability | 11 (36.6%) | 4 (13.3%) |
| Food | 9 (30%) | 10 (33.3%) |
| Affection | 7 (23%) | 4 (13.3%) |
| Play | 4 (13.3%) | 4 (13.3%) |
| Social activities | 3 (10%) | 2 (6.7%) |
| Being carried on the back | 0 (0%) | 5 (15%) |
| No beating | 0 (0%) | 3 (10%) |

differed considerably. In one case, a two-year-old boy, firstborn of a single mother of two, had stayed for one month with the grandmother before he moved back into his mother's house. In another case, a boy (17 months), the last of four children, moved to his grandparents and stayed there. Most children who changed household (six children, 55 percent) also changed back and forth between the original and the new household before finally living in both households. Some families did not give any reason for the child's household change, some argued that this decision relieved the mother during a new pregnancy or while she was looking for a job, and others described the household change as a decision of the child.

To get more insight into the household compositions, caregiving arrangements, and individual reasons for the decisions, we will describe example cases of each of the three models (moving back to the original household, staying in the new household, and living in both households) in more detail.

Mary[1]

Mary had just turned four years old when we interviewed her mother. The Catholic family lived in Kovifem. The parents, both farmers, had been married for nine years. Mary had two older brothers (nine and six years old) and one younger brother (seven months). Additionally, a female cousin (11 years) co-resided with them. Since the time Mary started crawling, her cousin had been her main caregiver. After school, she took care of her all day, feeding her, bathing her, carrying her on the back, and playing with her. Mary liked her very much. When her mother got pregnant with her younger brother, Mary was sent to her grandparents' house, where her aunt and two cousins also lived. In this household, her grandfather and aunt took care of her. After about seven months, when her brother was born, she returned to her parents' household. Her favorite caregiver was currently her mother, who was at home most of the time or took her along when she went to the farm. Her cousin, who used to be her main caregiver before she moved to her grandparents' house, also played with her and took her on walks.

Fonyuy

Fonyuy is the only child of a 25-year-old single mother living in Kumbo. We do not know anything about his father. When Fonyuy was born, he lived with his mother and his mother's cousin with her daughter. Throughout the first two years of his life, his mother took care of him all day. There were no other caregivers involved on a regular basis. When Fonyuy was two years old, his mother, who had completed secondary school, decided to go to Yaounde, the capital of Cameroon, to look for a job. Since it was not possible to take the infant with her, she left Fonyuy with her grandaunt. The now-three-year-old boy has since lived with his granduncle and grandaunt and five second cousins, aged between seven and 20 years. His grandaunt worked in the fields, and his granduncle earned some money as a bricklayer. His grandaunt was his main and favorite caregiver "because she is always carrying him, if he wants to cry and also because she always gives him something to eat."

Abdu

Abdu is the second-born son of a Muslim family from Kovifem. He was three and a half years old and had an older brother (nine years) and a younger sister (11 months). Parents and children lived together

as a nuclear family. His parents had finished primary school. The mother worked in the fields; the father worked as a traditional healer. When Abdu was just born, his parents took care of him, especially his father, who carried him and played with him many hours a day. After a few months, his grandfather took over. Since the time when Abdu started crawling, his parents left him with his grandfather, who watched him all day while the mother was on the farm. His grandfather became his favorite caregiver "because he is always buying sweet stuff for him, like puff-puff and sweets." When Abdu was two years old, he started to stay overnight at his grandfather's house. His mother described this as a seemingly natural development: "They spent the whole day together, so they slept at night together as well." Since then, Abdu changed back and forth between his parents' and his grandparents' household. He alternated almost daily, staying one day here and one day there. His mother explained this behavior: "He knows all of us are his and he belongs to both houses."

## DISCUSSION

This study examined the composition and changes in children's social networks and living arrangements in northwestern Cameroonian Nso farmer families. Results revealed extensive caregiving networks that change in composition over the first three years of life. While the mother was reported being the most prominent caregiver during a child's first months, the importance of other caregivers and the child's change between households increased with age. The frequent mentions of siblings, grandmothers, and fathers as preferred caregivers further emphasize the importance of alloparents in children's social lives.

### Alloparenting as the normative caregiving arrangement

Our study confirms alloparenting as the prevalent caregiving mode among the Nso from birth on, thus confirming earlier reports (Lamm, 2008; Nsamenang and Lamb, 1994; Yovsi, 2003). Previous studies show that, on average, four caregivers (two adults, two children) form a baby's inner social network (Teiser, 2010). The mother plays an important role in being the most prevalent caregiver during the first three years of life. The frequent involvement of mothers is based in breastfeeding. Nso women usually wean their infants in the third year (Yovsi, 2003; Yovsi and Keller, 2007). During the first few months, infants are exclusively breastfed, and mothers are mostly available for breastfeeding on demand. At the same time, however, only one child was reported to favor the mother over other caregivers, indicating that presence and preference are not identical. Also, the mother's involvement changes substantially, with the most dramatic decrease toward the end of the first year. The decline of maternal involvement is related to the reduction of breast-feeding as infants start taking solid foods. When used to complementary feeding, infants can be cared for by other caregivers for longer periods of time, so that alloparental involvement increases. These findings further strengthen the argument that the mother is one among many and not necessarily the most important caregiver (Keller and Chaudhary, 2017). The Nso pattern of alloparenting is similar to the Madagascan example, where mothers also represent major caregivers during the first two to three years (Scheidecker, forthcoming). However, contrary to the Madagascan pattern, the mother does not disappear entirely but remains an important social partner. Also, Madagascan mothers almost exclusively provide physical care, while Nso mothers did report participating in play and other social activities, at least during the first year of life.

The cultural view of caregiving as a communal task is reflected in Nso proverbs. Phrases like "A child belongs to its mother only when it is still in the womb" or "A woman's children are not only those she has carried in her womb" ("Two hundred and fifty-five (255) original Nso proverbs", Nsaikimo, 2016) describe the philosophy of collective childrearing based in a conception of parenthood that includes the wider kin group (Nhlapo, 1993). Furthermore, these phrases communicate the assumption that the biological mother cannot raise competent children by herself (Nsamenang, 1992b).

Another contribution of this study is the finding that Nso caregivers share the same responsibilities. Whether the caregiver is the mother, the grandmother, or a sibling, they all feed, bathe, and carry infants. The only unique caregiving activity of mothers is breastfeeding. Thus, being a main caregiver seems to be defined by availability and adopting all care activities. Specific functions of specific caregivers related to emotional regulation like comforting during distress were never mentioned. In fact, this was also shown by spot observations, which revealed that three-month-old Nso babies experience comparable high amounts of body contact with their mothers and with other caregivers when crying (Keller et al., 2005). Caregivers thus replace each other easily, reflecting the cooperative conception of childcare. This practice of sharing responsibility, but not splitting functions, contrasts with multiple caregiving communities described by other scholars (Harkness and Super, 1995; Lloyd and Blanc, 1996; Tronick et al., 1992; Weisner and Gallimore, 1977), within which specific members of the kin group accept responsibility for different aspects like nurturing, socializing, or educating children. For example, the comparison of caregiver roles in three cultural groups living in Costa Rica revealed that female caregivers in two rural samples often shared all caregiver tasks, while male caregivers only adopted specific tasks. In the urban sample, caregiving responsibilities were more divided among caregivers (independent of the caregiver's gender) with specific tasks performed by specific caregivers (Schmidt et al., 2021). This illustrates that alloparenting is a complex, multilayered cultural practice, calling for further research in different cultural groups.

According to the interviewees, children play a prominent role in the care networks of Nso infants and young children. From preschool age on, all children have experiences in the care of infants (Lamm, 2008), and all infants experience child caregivers (Teiser, 2010). Previous studies have shown that four-to-eight-year-old children are also considered competent caregivers for infants, caring for them while engaging in other activities, such as playing, doing homework, or helping around the house (Lamm, 2008). Scheidecker (forthcoming) labeled two-to-five-year-olds as peers and 10-to-13-year-olds as babysitters. He showed that peers play an outstanding role in the social network of rural Madagascan infants. The fact that six-to-nine-year-olds did not play a significant role in the Madagascan sample and were not mentioned as favorite caregivers among the Nso supports this differentiation into peers and babysitters in some cultures. Nevertheless, our Nso informants explicitly labeled the four-to-six-year-olds as caregivers. Two of our interviewees also indicated that the three-year-old target children do not have any caregivers because they themselves are already taking care of their younger siblings. Thus, there is a need for further research to better understand the role of siblings within alloparenting networks. Surely, age differences cause status differences that change the relationships between siblings. However, the role differentiation between peers and caregivers might be difficult as all interactions have socializing effects on children. Consequently, Nso children are specifically left in the care of siblings because sibling care is considered to provide an important socialization platform in early life. Additionally, caring for siblings allows children to practice their own parenting skills, so that four-to-eight-year-old children have already fully internalized the cultural model of infant care. Although boys and girls were found to be likewise involved in sibling care and to have the same level of childcare knowledge, the majority of Nso parents believed girls to be better babysitters than boys (Lamm, 2008). Accordingly, girls are usually preferred as firstborns today as they provide more sibling care. This might contribute to the fact that infants preferred sisters over brothers as caregivers in our study, at least until age 12.

Interestingly, fathers were reported as playing an important role as caregivers, mainly during the first three months of life. Fathers' involvement is higher in nuclear families, reflecting a general pattern of paternal childcare participation (see Keller and Chaudhary, 2017). Nso fathers' presence in infants' daily life seems to reflect social changes, as interviews in 2009 revealed that fathers see their role and investment mainly in material support (e.g., food, medical treatment), not in caregiving (Lamm and Keller, 2012). Our finding that girls preferred fathers over other caregivers might be related to the higher paternal involvement with daughters during the first years of life. However, so far, we do not know much about gender differentiation in Nso socialization. Interviews with Nso fathers revealed that more than 80 percent claimed not seeing any differences in bringing up girls or boys because all children are gifts from God, and they feel likewise responsible for children of both genders. Accordingly, previous studies did not find any gender

differences in socialization goals nor in the expected or actually assessed achievement of developmental milestones or in parental interaction behavior (Keller, 2007; Lamm et al., 2015; Lohaus et al., 2011).

## Changing household compositions

Around one-third of the children in our study changed households during the first three years of life, usually coinciding with weaning at around two years. There were no family characteristics that could be generally linked to whether a child changed households. Foster care is part of the Nso ideal of collective childrearing (Verhoef, 2005), which ensures children's success and leads to close ties within family networks, similar to childcare arrangements in other African contexts (Alber, 2004; Isiugo-Abanihe, 1985; Leinaweaver, 2014; Notermans, 2004). Whereas older children (starting from six years) in many sub-Saharan communities are sent to foster parents for education purposes, younger children are fostered by close maternal relatives who nurture them fondly (Bledsoe and Isiugo-Abanihe, 1989). Accordingly, all but one child in our sample changed to the grandparents' household and the one exceptional case to the maternal grandaunt. According to Verhoef's (2005) description of Nso foster care arrangements of five-to-eight-year-old children, the household changes in our study could reflect joint ventures. Parents and foster parents were reported to have close relationships and collaborate in childcare. Children were sent to the foster parents for necessary organizational reasons (e.g., a new pregnancy, job-seeking). Sometimes the household change was described as a natural development because the grandparents took care of the child during the day anyway, so that the children started to stay overnight. In one case, it was the decision of the child himself. Children deciding about foster care arrangements is a highly interesting aspect of care arrangements and was also reported in previous studies (Fonseca, 2004; Leinaweaver, 2014; Verhoef, 2005). Nso farmers have been described as a hierarchical community where children learn early to fulfill responsibilities with few opportunities for individual decisions (Keller, 2007; Nsamenang, 1992a). However, small children can decide where they want to live, which would be regarded as challenging parental authority in the mainstream Western world to the degree that state authorities would be involved. This situation calls for a deeper understanding of the interplay between autonomy and relatedness. So far, we have described the concept of action autonomy for Nso children, consisting of independent and agentic acting for the community. Obviously, the dimension of volition needs further exploration (see also Murray et al., 2015 for the Chilean Mapuche).

The duration of the foster arrangements varied greatly, with some children changing back to the original household, others staying in the new household, and most of the children changing back and forth, practically living in both households. These examples support the perception of a household as permeable and fluid, in contrast to the concept of a stable household in Western nuclear families. In addition, this type of foster care results in children's social networks expanding rather than caregivers being substituted for one another. This might indicate that children benefit from foster care as suggested by Leinaweaver (2014).

## Implications for attachment formation

Both the decreasing maternal involvement over the first three years and the different social environments associated with changing households conflict with key assumptions of attachment theory regarding the necessity of continuity of the primary attachment figure. For the childcare philosophies of Nso families as well as supposedly other families in similar socio-ecological environments, the stability of a primary caregiver's presence does not play a crucial role for child development. This study thus seriously challenges basic assumptions of attachment theory about attachment formation.

The caregiving arrangements can be assumed to impact the formation of the sense of security as the core of attachment differently (Keller and Chaudhary, 2017): Having many caregivers performing the same responsibilities might promote a sense of security to the group of caregivers, rather than to individuals. This

is in line with Meehan and Hawks's (2013) findings regarding the socialization of Aka children, who expect and trust that their emotional and physical needs will be met by a variety of caregivers, which encourages the formation of strong relationships to the entire group. Children of the Nseh, a Cameroonian clan living close to the Nso, were also reported to have wide attachment networks consisting of peers and adult caregivers who serve as an important collective resource (Becke et al., 2019).

The early emphasis on building strong bonds with multiple caregivers is not random; it follows distinct socialization goals favoring communal relationships instead of exclusive dyadic bonds, based in the cooperative lifestyle of Nso society (Ndzenyuiy and Keller, forthcoming). Parents want their children to be exposed to the care of others so they can easily adapt to different situations. For example, most of the Nso people are farmers. Farms are not always close to home, so parents usually travel several miles and stay for one to two weeks to work in the fields. During this time, young children are often left in the care of older siblings, extended family members, and/or neighbors. Whether the children function smoothly during this time depends on how well they were previously introduced to other caregivers. The popular Nso lullaby "*Yoo yo yo ke, Maati Mamy wir for qwa*" (Hold on, your mother will soon return from the farm) reflects how common maternal absence due to farm work is and how important other caregivers are to soothe the child in these situations. Thus, in line with interdependent socialization goals of social responsibility and relatedness (Nsamenang, 1992b), Nso caregivers consider it beneficial for children to not only rely on their mothers or parents but develop a network of trusted caregivers. Also contrary to attachment theory, caregiver–child relationships do not seem to be conceptualized as emotional bonds. Psychological dimensions and emotional bonds were hardly referred to by our informants regarding caregiver preferences. Instead, children's preferences are rather centered around material/functional benefits (e.g., food). The role of food and feeding has been neglected as a dimension of relationship development in attachment theory, despite ample evidence that feeding has a highly affectionate and social function (e.g., Janowski and Kerlogue, 2007). Among the Nso, giving food also has a soothing function, reflected in the common expression "You cannot cry when you have food in your mouth."

Developmental goals differ between cultural groups (Keller, 2021). Unfortunately, there is not enough longitudinal research in non-WEIRD environments to systematically study developmental consequences of communal relationships and their variations in context. Existing studies, however, support that Nso children develop in line with Nso cultural emphases: one-year-old Nso children showed more compliance toward strangers than German middle-class children (Otto et al., 2014), and Nso children generally learn to regulate their emotions at an early age (Otto, 2014). At four years, they demonstrated better self-regulation assessed with the marshmallow test than German middle-class children (Lamm et al., 2018).

## Limitations

Our results are based on the participants' subjective reports. These could be biased by cultural response tendencies (i.e., response biases due to cultural factors that affect the way people perceive and respond to interview questions). However, the response tendencies would possibly support cultural normative views. Moreover, we can count on years of experience and mutual trust with the Nso communities so that families knew that we were interested in child development in different cultures and our goal was to learn the Nso way. We are therefore confident that the interview data reliably represent the participants' everyday experiences. Spot observations to assess the social experiences of three-month-old Nso infants revealed that they were taken care of by many different persons and that caregivers put emphasis on communion (Keller et al., 2005). Nevertheless, future studies should combine interviews and observations, and especially examine interactions between caregivers and children to understand the psychological dynamics in caregiving relationships.

# CONCLUSION

The Nso system represents a multifunctional conception of caregiving. There are several caregivers with interchangeable caregiving activities responsible for each child. The size and makeup of these networks depends on the household composition. Households and families have fluid boundaries, making changes in children's caregiving network a normative phenomenon. Children may have preferred caregivers or not. Preferences are not necessarily linked to the continuous presence of a particular caregiver or distal expression of emotions. Also, material care can be the basis for preferences. All this contradicts the assumptions of attachment theory's claims for healthy developmental trajectories. However, it corresponds to a relational cultural model and a conception of childcare as a communal task. While attachment theory promotes the concept of attachment as a long-lasting emotional bond between two individuals, usually between the child and an adult, this neither reflects the reality of Nso children nor represents the ideal of Nso relationship formation. Although attachment theory claims universality, it represents a rare relational model stressing the individuality and uniqueness of the attachment dyad. Thus, this study contributes to the formulation of a communal conception of attachment, as opposed to the individualistic conception that has prevailed until today.

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## ENDNOTE

[1] Names have been changed to protect confidentiality.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

## APPENDIX
### Interview lead questions

- Who took care of the child just after birth? Question asked for different periods:
  - ○ when the infant was just born (first few months)
  - ○ was crawling but not yet walking (second half of the first year)
  - ○ was walking but not yet talking (second year)
  - ○ when already started talking (third year)
- List all the persons who were in regular touch with the child. Describe their position/rank in the household.
- What did they do with the child? How much time did they spend with the child per day?
- How can the relationships be described for each caregiver to the child?
- Does the child have preferences? Did the child have preferences in the first year?
- Did the child change the household, i.e., spend most of the time in another household, slept in the other household, etc.? Question asked for different periods.
- What was the reason for the household change?
- Describe in detail the new household (e.g., composition).
- Did the child change back again to the original household? When and why?
- Were there more changes? Please describe every change according to the same questions.