Attachment as a Collective Resource: Attachment Networks During Middle Childhood in a Cameroonian Clan

Sophia Daphne Becke¹, Stephan Bongard¹, and Heidi Keller²

Abstract
Attachment theory is commonly used to investigate children’s psychosocial development. To demonstrate cultural variability and to advance the idea of attachment as a collective resource, we assessed children’s attachment networks during middle childhood among the Nseh, a Cameroonian clan with distinct concepts of family and childhood. Using photo elicitation interviews, we used an exploratory approach to investigate the structural and functional composition of these networks and to generate a comprehensive overview. Participants were 11 children (six girls and five boys), aged 6 to 10 years. Children took photos of individuals who were important to them and with whom they felt safe, comfortable, and at ease. Then, in follow-up interviews they were asked to characterize their attachment figures on sociostructural dimensions and to elaborate how those individuals made them feel comfortable and safe. Transcripts of the interviews were coded using ethnographic strategies. Initial descriptive codes were analyzed concerning key terms, semantic relationships, and their context of meaning, before assigning higher level codes to generate distinct main categories of functionality. Children described attachment networks that were structurally adapted to concepts of social ties and interactional norms of the clan. Concerning their functionality, children differentiated between peers, responsible for overt emotional needs, and adults, providing nutritional care. We conclude that this pattern reflects sources of security and concepts of care of the distinct developmental environment. We discuss the importance of context-specific and comprehensive approaches to attachment, moving beyond Eurocentric monotropic concepts, with the goal of developing a complex understanding of childhood across ecocultural settings.

Keywords
attachment, development: child/adolescent, middle childhood, Cameroon, photo elicitation interviews, family/child rearing, social networks

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In mainstream psychology, children’s psychosocial development and their social ties are often investigated using the construct of attachment, a dyadic affectional bond between a child and their caregiver(s) (Ainsworth, 1989; Bowlby, 1969; Cassidy, 2016). Across all developmental stages, attachment behavior establishes and maintains a feeling of security (Ainsworth, 1989; Hazan & Shaver, 1994; Sroufe & Waters, 1977). Based on the idea of an evolutionary foundation, attachment constitutes a universal principle of close relationships across cultures (Bowlby, 1969; Mesman, van Ijzendoorn, & Sagi-Schwartz, 2016). As attachment relationships result from individual experiences of availability and interaction, each attachment figure is noninterchangeable. These caregivers perform two different tasks. In stressful situations, they serve as a safe haven, regulating the child’s acute distress. When they have repeatedly proven their dependability, they also begin to act as a continuous secure base, providing an ongoing sense of security and comfort, thus enabling exploratory behavior (Ainsworth, 1989; Waters & Cummings, 2000). Children’s early attachment experiences have a long-term impact on subsequent relationship structures and the general psychological development, substantiating the importance of attachment research (Thompson, 2016).

**Attachment in Middle Childhood**

While attachment research was initially restricted to the first few years, children’s attachment ties are now increasingly investigated during middle childhood (Kerns & Brumariu, 2016), a developmental stage with a unique influence on children’s long-term trajectories (Huston & Ripke, 2006). During middle childhood, children pass through social and cognitive reorganizations dependent on their distinct developmental environment (Lancy, 2015; Montgomery, 2009). Attachment patterns and their mental representations gain complexity due to children’s cognitive advancements and their growing ability to regulate their emotions autonomously (Kerns & Brumariu, 2016; Mayseless, 2005). Children are increasingly capable of reflecting on and describing their attachment experiences, allowing for new methodological approaches. Questionnaires and interviews can be used to directly assess the children’s perspective, mostly focusing on stressful situations and the availability of attachment figures as a safe haven (Kerns & Brumariu, 2016; Raikes & Thompson, 2005).

During this developmental stage, children are integrated into a wider social world and establish new relationships, particularly with same-aged peers. Those ties have been demonstrated to have a long-term impact on children’s development, even into adulthood (Collins & van Dulmen, 2006; Huston & Ripke, 2006). However, research on attachment during middle childhood follows the concept of monotropy, the assumption that parental caregivers continue to act as the preferred primary attachment figures, located at the top of a postulated hierarchy of relevance (Kerns & Brumariu, 2016; Mayseless, 2005; Raikes & Thompson, 2005). This focus is justified by the longevity of parental ties and the resulting unconditional availability of parents (Ainsworth, 1989). In this perspective, peers and nonparental adults, less consistently present, are restricted to a position of context-specific and temporary replacements when parents are not available. Peers, specifically, are assumed to fulfill the need for companionship (Kerns, Tomich, & Kim, 2006; Kobak, Rosenthal, & Serwik, 2005; Seibert & Kerns, 2009).

**Limitations of Attachment Research During Middle Childhood and Alternative Perspectives**

Despite its growing popularity, research on attachment during middle childhood still exhibits methodological limitations and research gaps. We focus on the neglected ecocultural adaptiveness of attachment, assuming that previously described patterns of attachment during middle childhood do not describe a normative development across all contexts.
Although critiques of the contextual insensitivity of attachment research have been expressed for years (Lamb, Thompson, Gardner, & Charnov, 1985) and the pluralism of childhood has been a research topic for decades (Whiting & Whiting, 1975), attachment research focusing on middle childhood continues to represent almost exclusively the Western childcare philosophy (Keller, 2016; LeVine, 2014). That Eurocentric perspective supports the ideal of the nuclear family, centers on biological mothers, and ignores cultural variability (Keller, 2016; Kerns & Brumariu, 2016). In addition, the most common methodological approaches privilege overt emotional expressiveness, a practice that is only valid in Western contexts (Keller, 2016; Weisner, 2014). The monotropic strategy also fails to generate an exhaustive overview of all individuals relevant for the children’s feeling of security (Lewis, 2005). On a conceptual level, this cultural bias of previous samples and methods has been acknowledged by most attachment researchers of middle childhood (Chen, 2015; Kerns et al., 2006; Seibert & Kerns, 2009), but empirically addressed by only a single study, in which children during middle childhood were enabled to exhaustively identify all their attachment figures (Seibert & Kerns, 2009).

Researchers in cultural psychology have countered this perspective with a culturally informed and context-sensitive approach (Greenfield, Keller, Fuligni, & Maynard, 2003; Keller, 2014, 2016; LeVine, 2014; Weisner, 2005). A transdisciplinary research strategy integrates cultural anthropological concepts into psychological childhood research, contextualizes developmental processes, and highlights their adaptiveness to distinct ecocultural conditions (LeVine & Norman, 2001; Weisner, 2014). This culturally sensitive approach can be further advanced by a network perspective on attachment that avoids monotropic restrictions and refrains from imposing normative concepts of family structures or care systems (Keller, 2014, 2016; Lamb, 2005; Lewis, 2005; Mesman et al., 2016; Weisner, 2005).

The Developmental Context of Middle Childhood in Sub-Saharan Africa

The study of middle childhood in developmental conditions that are distinct from the autonomous Western setting can elucidate the spectrum of adaptive attachment patterns. Autonomous settings of childhood are often contrasted with relational settings, commonly exemplified by sub-Saharan contexts. Both cultural models represent extreme positions along the dimensions of relatedness and autonomy and generate distinctive pathways of socialization, adapted to the respective ecocultural context. In Western settings, children grow up in nuclear families. Early child care is a dyadic and mostly parental task. Care strategies impart independence and assertiveness and support emotional expressiveness, especially in situations of distress (Greenfield et al., 2003; Kâğıtçıbaşı, 1996; Keller, 2007, 2014; Keller et al., 2006; Keller & Otto, 2009; Weisner, 1984, 2005). Families in relational settings, often investigated in traditional villages, live in large households, integrated into extended network. Early care relies on a system of shared care, oftentimes including older siblings or peers. Care strategies impart interdependence and harmony in a hierarchical group and promote emotional regulation and inexpressiveness, facilitating the distribution of care responsibilities (Kâğıtçıbaşı, 1996; Keller, 2007; Keller et al., 2006; Keller & Otto, 2009; Otto, 2014; Weisner & Gallimore, 1977). Resulting from these conditions during early childhood, middle childhood in many relational sub-Saharan African cultures is marked by several distinct characteristics. First, children possess a diverse social environment during middle childhood, resulting from the early systems of shared care and extended social affiliations (Lancy, 2015; Weisner, 1987; Weisner & Gallimore, 1977). Second, peers hold a position of extensive responsibility during middle childhood, especially from the point of weaning. This exceeds affiliation and play, a common role of peers across cultures. Due to the prolonged stability of these relationships, peers provide a life-long developmental frame (LeVine et al., 1994; Weisner, 1987, 1989) Third, childhood in most sub-Saharan contexts is shaped by the
transitional period of “toddler’s rejection.” In critical developmental conditions, child care focuses on the infant’s survival (LeVine et al., 1994). When these precarious first years are overcome, the adults’ care is sharply reduced as children are no longer in need of constant supervision and mothers are oftentimes pregnant again. The process of weaning and no longer being tied on their caregivers’ backs at the end of the second year of life is followed by radical changes in the children’s social environment; after a period of symbiotically close relationships, children are now faced with an expectation of accelerated independence. Throughout early childhood, this transition is increasingly compensated for by an inclusion into peer groups. Children are also gradually introduced to a position of responsibility (Becke & Bongard, 2018; Harkness & Super, 1992; Lancy, 2015; Weisner, 1987; Weisner & Gallimore, 1977). During middle childhood, peer groups are now the children’s main interactional space, while the adults’ influence and control are considerably reduced. Children are also responsible for a significant number of chores in their families (Harkness & Super, 1992; LeVine et al., 1994; Montgomery, 2009; Weisner, 1987).

The Developmental Context of Middle Childhood Among the Nseh

We will now focus on the conditions of middle childhood in a specific example—the Nseh in Cameroon, which is the setting of this study. Due to their secluded position as a small community surrounded by larger and more powerful settlements, they subtly perceive their neighbors as a threat to their autonomy and existence. This situation resulted in the preservation of their distinct traditions. Despite being an administrative part of the larger Nso through colonial demarcation, the Nseh have continuously insisted on their position of sacral and political independence (Ndze, 2008). Sharing a mystical common ancestor and linking several lineages in a delimited settlement area, the Nseh self-identify as a clan. However, they lack an overarching tribe in their kinship system (Fox, 1967/1983).

The village of the Nseh is geographically situated in the volcanic highland of the Grassland of Cameroon. The economic situation is critical. The location is well off the main trade route of the Anglophone Northwest Region and most houses lack access to basic infrastructure, for example, electricity and fresh water. The main source of livelihood is subsistence agriculture. The yearly outcome is afflicted with unpredictability as crop yield depends on favorable weather conditions in the comparably cold region. Over the past years, the situation has deteriorated as population growth has led to a decrease in available farm land. Constant cultivation, lack of crop rotation, and excessive use of chemicals result in a declining quality of the soil and a continuously decreasing yield. Food supply is perceived to be critical by most clan members. While farms secure the basic provision throughout the year, most families lack access to any additional food other than a few Maggi cubes or a small bag of salt. The stock also needs to be rationed carefully to last the entire year. At the end of a crop year, the situation becomes increasingly tenuous. Limitations in portion sizes become necessary and families sometimes depend on assistance from relatives. Because of these conditions, food supply constitutes a main topic of discussion in the clan, with conversations centering on farm work, crop yield, and the remaining stock. Due to the omnipresence of the topic and their own contributions to the workforce of the clan, children during middle childhood are well aware of this situation, adopting the concerns of adult clan members and characterizing their families’ nutritional supply as worrisome.

Social ties are built on kinship and a hierarchy of seniority. Concepts of kinship ties are rooted in the historical narrative that references founding families, now dividing the clan into several lineages (Ndze, 2008). Kinship has been demonstrated to translate into trust and sociability, the closeness of the tie determining the extent of solidarity (Sahlins, 2013), which in turn attributes danger to all those from outside the clan. During middle childhood, children are well acquainted with their kinship networks and the individual ties. They join their extended families on the farm
or assist them in their homes. In return, these extended family members provide moral and financial support, especially in times of need.

Social ties are also built and maintained by sharing food. Food sharing serves as an affective expression of love, care, comfort, and security, as well as a way to dispel negative emotions (Kaufmann, 2010; Locher, Yoels, Maurer, & van Ells, 2005). For the Nseh, the ability to feed her children is central to a mother’s role. In addition, food sharing leads to a shared social identity and establishes group membership (Mauss, 1967). Most social gatherings (njangis) include a common meal called “Item 11” of the agenda, perceived as an essential and linking part of any meeting. This bonding character of shared food is also expressed on a linguistic level by the common saying, “We are one mouth” (Vèr dzè shuù mò’ón), describing close relationships in families and among friends.

Residential patterns are closely linked to kinship. Compound families, common in many African cultures (Radcliffe-Brown, 1958), consist of several elementary families with close kin ties. Each of those includes parents and their biological and social children, sharing the same sleeping house. Although most members of compound families share the same plot of land, this category also describes ties beyond the mere spatial composition of the clan, applying to family members with the same kinship ties who have moved, for example, because of marriage. The Nseh exhibit a third family unit in between the levels of the compound family and the elementary family. The hearth family joins to prepare and eat their meals in their shared firewood kitchen. During middle childhood, all children from these three basic structures of kinship are considered and treated as siblings.

To reference age and development, the Nseh use four different categories. Based on the significance of seniority, the strict distinction between adults and children translates into behavioral norms of power and respect. Childhood is divided into three stages, mostly based on the ever-present theme of food and nourishment. From birth up to about 4 years, a child is identified as a “wàn.” Children of this stage have to be nursed, first by being breastfed and later by being fed by hand or spoon. While there is no equivalent term for “attachment” among the Nseh, there are distinct notions and practices how a selected care system provides a secure environment in these first years to ensure the children’s health and to provide possibilities to learn. Comfort is mostly attributed to a well-fed child that is continuously tied on the back of a caregiver. Children generally experience a distribution of care responsibilities. Mothers receive substantial support from a selected group of children, adolescents, and adults from their compound family (Becke & Bongard, 2018). After being weaned, children begin to spend more time with their peers, now moving beyond the borders of their compound. At the end of this first stage, they are introduced to household chores. The next developmental step is called “wànlè,” ranging from about 5 to 11 years of age, corresponding to middle childhood. Children at this age can independently provide themselves with food cooked by adults. They are now included in the process of producing and preparing the family’s provisions and join adults or groups of children in farm work. They are also responsible for carrying corn from the family’s granary to the grinding mill, providing a steady supply of water and firewood, keeping the compound clean, taking care of their own laundry, supporting their mothers in the kitchen, and caring for the smaller livestock of the family while also being responsible members of the system of shared care. Providing assistance and being assigned to a position of responsibility form important contexts of informal and cultural education for children. Their introduction into the workforce, most often accomplished by peer role models, does not only constitute an implementation of their economic value in the harsh conditions of subsidence-based economies and a preparation for adulthood but also become part of their identity as children in these contexts (Boyette & Hewlett, 2017; Lancy, 2012, 2015) While assistance and altruism have generally been proven to constitute innate and intrinsically motivated human behavior (Warneken & Tomasello, 2013), children of the Nseh explicitly complain about the extent of their chores and their low-end position in a hierarchy of delegation, both
in spontaneous conversations in peer groups and in informal interviews. Conscious of their own importance for the provision and the well-being of their families, children describe this role as a burden.

During the week, children spend their mornings in school. However, due to low standards in teacher training, this educational setting increasingly elicits disappointment in adults and children, resulting in a decrease in children’s academic efforts and parental pressure to excel due to poor academic performance and the consequential loss of future prospects. In addition, classes are teacher-centered, only focusing on the transfer of academic knowledge and oftentimes including corporal punishment, resulting in distant and highly formal relationships between students and teachers. During most afternoons, children from several compounds meet in groups to jointly fulfill their assignments, play games, gather fruits, or hunt small insects in the bush. These peer groups include children from both the second and the first developmental stages, as children are now oftentimes responsible for their younger siblings. Adults only return to the compound late in the afternoon. Their attention and overt care is drastically reduced during this developmental stage. As a consequence, their regulatory influence on these peer groups is limited. The composition of individual peer groups is generally consistent over time while fluctuating throughout the day. Peer groups contribute to the mediation and preservation of social norms of the general group (Lancy, 2015; Weisner, 1984). However, these groups of wúnlè also develop their own behavioral rules on the adequacy of interactional patterns, the allocation of responsibilities in the group, and the distribution of power.

Depending on their social and physical development, girls from about 12 years into adulthood are called “wánílè ngón” and boys are called “wánílè nsúm.” These children have major responsibilities in the household and the farm, and gender-based norms now begin to determine their behavior.

Social maturity is achieved through marriage, the birth of a child, or occupational independence. In Lamanso, the native language of the Nseh, the stage of adulthood is called “lúmèn” for a man and “wiíj” for a woman. The clan exhibits strict gender-based rules concerning religious aspects that exclude most women from these spheres. In everyday life, however, women and men mostly interact freely and together perform different aspects of shared work in the fields.

Current Study

To describe the variability of attachment and childhood beyond Western settings and to investigate how conditions of middle childhood in relational cultures shape children’s attachment patterns, we aimed to assess the children’s perception of their attachment environment among the Nseh to understand how and by whom their feelings of security are established.

We adopted a network perspective on attachment during middle childhood to depict both the interconnectedness of relational cultural contexts and the universal tendency of children during middle childhood to direct their attachment behavior toward a diverse group of individuals. We used the children’s own perception and understanding of attachment as our main source of information, following child-centered anthropology. This acknowledges the children’s active position in their developmental context (Montgomery, 2009) and bridges the psychological and social distance of understanding created by the age gap between researchers and children (Weiss, 1993). We considered the feeling of security to be the main objective of attachment behavior. Thus, anyone contributing to the felt security from the children’s perspective constitutes an attachment figure. Accordingly, we expected attachment during middle childhood to be a collective resource, distributed across a community of attachment figures, even if the individual range and impact vary. We followed an ecologically informed approach to attachment (Keller, 2016; Weisner, 2014), aiming to make the distinct context an inherent part of the study to reflect on the adaptiveness of the observed patterns and applying a transdisciplinary strategy that integrates
ethnographic methodology into attachment research. This also translated into an exploratory strategy because there are no preexisting data on attachment during middle childhood in a comparable setting. In the following, the two main guiding research questions will be outlined.

**Identification and Sociostructural Differentiation**

In line with previous attachment research during middle childhood, we first wanted to identify the attachment figures of the children of the Nseh. Thus, we asked the following question:

**Research Question 1:** Whom do children of the Nseh perceive as their attachment figures during middle childhood?

We decided to limit our focus to the role of attachment figures as a “secure base.” Varying cultural norms with respect to emotional display could possibly affect both the willingness of children to discuss situations of distress and their behavior in stressful situations (Keller, 2014). In addition, attachment figures only receive the position of a secure base after repeatedly serving as a safe haven (Ainsworth, 1989; Waters & Cummings, 2000), making them the least interchangeable individuals in the children’s attachment environment. Their constant availability and the resulting safe and comfortable environment provide children with the possibility to freely display exploratory behavior, having this base to which they can retreat. Thus, we asked children about a feeling of security, comfort, and free exploration (Ainsworth, 1989; Waters & Cummings, 2000). We also aimed to differentiate the individual attachment figures on distinct sociostructural dimensions of the setting to reflect on the contextual influences on the children’s selection.

**Functional Differentiation**

Second, we wished to assess the context-specific patterns of attachment on a functional level, focusing on the individual contributions to the general feeling of security. Those responsibilities of the growing numbers of attachment figures in middle childhood have been mostly neglected (Kerns, 2008). Accordingly, we asked the following question:

**Research Question 2:** How do the selected attachment figures provide children with a feeling of security?

To reflect on the adaptiveness of children’s concepts of security, we wanted to discuss how attachment functionality and its distribution across attachment relationships could be linked to context-specific sources of insecurity, individual access to resources, social norms, and hierarchical structures in the clan.

**Method**

**Sample**

The sample consisted of 11 children (six girls and five boys) between the ages of 6 and 10 years. The sample was based on expert’s choice (Lonner & Berry, 1986). Our research assistant, a member of the clan, selected families that were representative of the different family structures observed in the clan. These variations concerned the composition of the children’s elementary and hearth families. The sample included children of married parents, single parents, polygynous parents, stepparents, and social parents. The number of siblings in the elementary families varied from being an only child to being one out of 10 children.
The research was conducted during two field stays of a total of 11 months by the first author (from April until December 2014, and October 2015 until January 2016) in the Nseh. After receiving consent from the clan’s leader, adult guardians and children individually gave assent in accordance with the Declaration of Helsinki. The study was carried out in accordance with the recommendations of the ethical guidelines of the German Psychological Society, and the protocol was approved by the ethics committee of the Department of Psychology of Goethe University Frankfurt.

Procedure

Based on our methodological concept of assessing and differentiating among attachment figures in an ecoculturally focused and exploratory way, we conducted participant observations and photo elicitation interviews (PEIs).

Participant observations are necessary to contextualize the assessed data to reflect on the adaptiveness of the observed patterns. They initiate a process of secondary socialization to develop an insider’s perspective by participating in routines of everyday life in a specific context over a prolonged period of time (Spradley, 1980/2016). In our participant observations, we aimed to investigate the distinct childhood setting among the Nseh. This included the broad social, political, and economic setup and general interactional patterns, also the specific ecological frame of middle childhood. We focused on behavioral patterns among children and those between children and adults, on the distribution of resources and responsibilities, specifically the affective significance of social ties, on the concepts of care and development, and the children’s position in the setting. We combined field reports, informal interviews, written material, and reports of oral history. The participant observations mostly took place in two neighborhoods of the village and included numerous families that frequently introduced us to other families or recommended experts. Based on the assessed material, we developed hypotheses on relevant concepts using follow-up observations and interviews to test and specify these assumptions. Women’s groups constituted the most important gatekeeper as previous observations in comparable settings had identified child care as a female responsibility (e.g., Otto, 2014). We joined these women in their daily lives, asking them to teach us “how to be a woman in Nseh,” aiming to identify their areas of life and their responsibilities at home and in the general clan. This approach also provided us with the opportunity to participate in family life and to join children in their activities in the compound and beyond. In these observations and the accompanying interviews, children explained their understanding and perception of their childhood environment.

To assess and differentiate children’s attachment figures, we selected PEI, a method regularly employed in child-centered anthropology. PEIs enable children to independently portray their social world and to use their own frame of reference in their descriptions (Luttrell, 2010). Children guide the data collection and act as experts for their experiences, reducing the influences of normative concepts held by the researcher and bridging age and culture-based gaps of understanding. The fun and active participation in PEIs and the visual stimuli are known to generate affectively more relevant data compared with questionnaires (Barker & Weller, 2003; Luttrell, 2010; Samuels, 2004).

Our implementation of PEIs aimed at an exhaustive and structured overview of all attachment figures while complying with the call for a combination of qualitative and quantitative data when investigating context-specific patterns of childhood and attachment (Keller, 2014; Weisner, 2014). It united quantifiable, thus comparable, information on the structural position of attachment figures in the selected setting with qualitative data on the children’s own understanding of their functionality to generate a profound understanding of children’s attachment figures.

The PEIs in our study featured a two-step structure: Children were first asked to identify their attachment figures by way of photographs taken with disposable cameras provided by the
researchers. All children reported having experience operating an analog film camera. Instructions and interviews were conducted in Pidgin English and Lamnso. Along with rules to ensure privacy during the data collection, we presented the following task:

Now you have your own camera. Please take pictures of anyone that is important to you, with whom you feel safe, comfortable, and at ease.

During the second stage, follow-up interviews were conducted in which children provided additional information on their relationships with the people depicted in their photographs. For every picture, they provided a structural allocation of the attachment figure and explained the functionality of each tie. For this, we asked,

Why did you include this person? How does he or she make you feel safe, comfortable, and at ease?

Data Analysis
Attachment figures were identified by children’s statements about the people photographed. Representative objects, such as those used by the person, were taken into account if mentioned in the interviews. Some children also added attachment figures during the interviews. Those individuals were included in the analysis because our focus was solely on the children’s own perception.

For their sociostructural allocation, attachment figures were differentiated according to gender, age, and kinships ties, three dimensions shaping social interaction among the Nseh. Children characterized their attachment figures in accordance with the indigenous developmental stages, resulting in four categories of age (younger peers, same-aged peers, older peers, and adults), and the kin-residential structures of the clan, resulting in five categories of kinship (elementary family, hearth family, compound family, lineage ties, no kinship ties).

We coded children’s responses to the perceived function of each attachment figure based on the methodological assumption that qualitative data, specifically those assessed in PEI, can be used to reconstruct the distinct system of meaning that shapes behavioral patterns in a specific context (Cappello, 2005; Samuels, 2004; Spradley, 1980/2016). Consistent with ethnographic strategies, the coding system was grounded in the field knowledge built on extensive participant observations. Thus, all interviews were coded by the first author in cooperation with our research assistant, with a single functional code assigned to each attachment figure. After developing descriptive codes based on the data, these codes were analyzed concerning key terms, semantic relationships, and their context of meaning to detect patterns of contrast and proximity (e.g., “sharing food” and “receiving food,” both sharing the same key terms and the same context of meaning). Using this information, codes were structurally organized, also taking the level of abstraction into consideration. We then assigned higher level codes until four distinct main categories of functionality emerged.

Results
Sociostructural Characterization of the Attachment Networks of Children
Concerning Research Question 1, we identified children’s individual attachment figures and characterized them on the dimensions of gender, kinship, and age to assess the sociostructural composition of children’s attachment networks. All children considered a large attachment network to be available to them. Altogether, 171 attachment figures were identified, ranging from 13 to 20 individuals per child, with an average of 15.5 attachment figures. Considering
the gender of these individuals, children only demonstrated a slight tendency to include more attachment figures of their own gender: the girls of the sample (59.8% female attachment figures vs. 40.2% male attachment figures) more so than the boys (48.6% female attachment figures vs. 51.4% male attachment figures). Characterizing attachment figures according to their age, peers generally constituted the most frequent members of children’s networks with a strong tendency toward their own age group (see Table 1). Considering their kinship ties, adults and older and younger peers mostly originated from shared residential categories, coming from the children’s compound, hearth, or elementary families and thus having rather close kinship ties. Despite all children attending primary school, adults from beyond shared residences did not include any teachers. In contrast to this pattern, same-aged peers mostly did not share residential or kinship ties, not even based on their lineage (see Table 1).

Functional Characterization of the Attachment Networks of Children

Four different main themes of perceived functionality emerged from the coding: Kinship, Assistance, Nutritional Care, and Affection. In the following, all categories are portrayed. Supplementary material includes photographic examples for each category.

Nutritional Care. The category of “Nutritional Care” encompasses all statements related to a provision with food. Statements that described relationships to adults and older peers highlighted a unidirectional relationship with children positioning themselves at the receiving end (“He is the one providing what we are eating,” adult male member of the compound family). Statements about relationships to younger and same-aged peers oftentimes explicitly described the act of sharing food (“When his mother comes, J. will take money and buy something and then we will share,” younger male peer from the compound family). Nutritional Care was the most common category in describing the perceived functionality of attachment relationships, mostly related to older peers and adults. For adults, gender was unrelated to this category while there were slight gender differences for peers (see Table 2). Nutritional care described relationships to individuals not only from the children’s hearth families but also from their compound family and those without any kin ties (see Table 3).

Kinship. The category of “Kinship” describes all statements explicitly referencing a kin-based relationship (“They are my junior ones,” younger and same-aged female peers from the elementary, hearth, and compound family; “She is a sister to my mother,” female adult member of the hearth family). Overall, Kinship was the second most common category. It described slightly more relationships to younger peers than to adults and same-aged peers. It was almost equally

<table>
<thead>
<tr>
<th>Category</th>
<th>Younger peers n = 30</th>
<th>Same-aged peers n = 54</th>
<th>Older peers n = 24</th>
<th>Adults n = 63</th>
<th>Total N = 171</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
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<tr>
<td>Elementary family</td>
<td>9</td>
<td>30</td>
<td>3</td>
<td>5.6</td>
<td>7</td>
</tr>
<tr>
<td>Hearth family</td>
<td>6</td>
<td>20</td>
<td>6</td>
<td>11.1</td>
<td>7</td>
</tr>
<tr>
<td>Compound family</td>
<td>8</td>
<td>26.7</td>
<td>6</td>
<td>11.1</td>
<td>5</td>
</tr>
<tr>
<td>Lineage ties</td>
<td>4</td>
<td>13.3</td>
<td>14</td>
<td>25.9</td>
<td>1</td>
</tr>
<tr>
<td>No kin ties</td>
<td>3</td>
<td>10</td>
<td>25</td>
<td>46.3</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Percentages relate to the individual age groups.
Table 2. Classification Into Categories of Perceived Functionality for Each Age Category and Gender as Percentages.

<table>
<thead>
<tr>
<th>Category</th>
<th>Younger peers</th>
<th>Same-aged peers</th>
<th>Older peers</th>
<th>Adults</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Total</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Nutritional Care</td>
<td>28.6</td>
<td>16.7</td>
<td>33.4</td>
<td>5.0</td>
<td>20.5</td>
</tr>
<tr>
<td>Kinship</td>
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<td>45.8</td>
<td>25.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Assistance</td>
<td>10.0</td>
<td>14.3</td>
<td>12.5</td>
<td>20.8</td>
<td>25.0</td>
</tr>
<tr>
<td>Affection</td>
<td>40.0</td>
<td>14.3</td>
<td>25.0</td>
<td>20.8</td>
<td>50.0</td>
</tr>
</tbody>
</table>

Note. Percentages relate to the individual age groups and the respective gender. For some pictures, no perceived functionality was stated or the stated reason was not codable.
used across genders (see Table 2). Concerning the kin-residential categories of the clan, it mostly described the functionality of individuals from elementary families and those with lineage ties (see Table 3).

**Assistance.** The category of “Assistance” refers to all statements related to helping behavior. The child described receiving help (“When he fetches firewood, he will come and give to me that I should come and give to my mother,” older male peer from the compound family) or was part of a reciprocal cooperative relationship, especially with other peers (“We always join to fetch wood and carry water together,” older female peer from the compound family). Assistance was the third most common function ascribed to attachment relationships. It was used to describe relationships with older peers—less for same-aged peers and adults, while rather insignificant for younger peers. Although children during middle childhood provide extensive assistance to their younger peers, this role does not seem to constitute a source for their own feeling of security. There were no differences based on gender (see Table 2). Assistance was used to describe a large spectrum of kin ties, slightly more from the hearth and the compound family (see Table 3).

**Affection.** The category of “Affection” contains all statements in which attachment relationships are classified as providing a feeling of security based on their affective relevance. This applied to statements about friendships (“They are my friends,” same-aged male peers without kinship ties) and explicit references to an emotional value. Children also expressed their own functionality for the overtly expressed emotions of others, specifically those of younger peers (“When she cries, I will carry her on my back,” younger female peer from the elementary family). Overall, this category was the least common function. While it was almost insignificant for adults and older peers, it was the most common category for same-aged peers. Gender did not influence the relevance of this category for relationships with adults, although there were slight gender differences for peers (see Table 2). Affection mostly described the functionality of individuals without kin ties (see Table 3).

**Discussion**

The objective of this study was to assess the context-specific patterns of attachment during middle childhood among the Nseh, focusing on structural and functional characteristics of individual attachment relationships. We will now discuss how the emerging patterns are adapted to the developmental context of the Nseh.

### Table 3. Classification Into Categories of Perceived Functionality for Each Kin-Residential Category as Percentages.

<table>
<thead>
<tr>
<th>Category</th>
<th>Elementary family</th>
<th>Hearth family</th>
<th>Compound family</th>
<th>Lineages ties</th>
<th>No ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Care</td>
<td>21.4%</td>
<td>53.6%</td>
<td>38.5%</td>
<td>14.8%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Kinship</td>
<td>46.4%</td>
<td>10.7%</td>
<td>11.5%</td>
<td>51.9%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Assistance</td>
<td>21.4%</td>
<td>32.1%</td>
<td>34.6%</td>
<td>18.5%</td>
<td>−</td>
</tr>
<tr>
<td>Affection</td>
<td>10.7%</td>
<td>3.6%</td>
<td>15.4%</td>
<td>14.8%</td>
<td>52.0%</td>
</tr>
</tbody>
</table>

Note. Percentages relate to the individual kin-residential category. For some pictures, no perceived functionality was stated, or the stated reason was not codable.
Reflecting on the Sociostructural Adaptiveness of Children’s Attachment Networks

Concerning the sociostructural characteristics of children’s attachment networks and their adaptiveness to the ecocultural setting of the Nseh, we conclude that the reported magnitude of children’s networks can be attributed to their diverse social environment. Children are raised in a culture built on interconnectedness and a system of shared care, creating the possibility and the necessity to establish a multitude of attachment relationships.

Children included more peers than adults in their attachment networks, a pattern greatly deviating from previous reflections on the superordinate importance of parental attachment figures during middle childhood. Two factors in the developmental setting of the Nseh may contribute to this finding. First, due to the adults’ workload and their normative withdrawal from overt care, only peers offer the unlimited and unconditional availability during middle childhood, a necessary condition for pervasive attachment relationships. Second, peer relationships exhibit a permanent stability, another necessary feature of attachment relationships. In many group-oriented childhood contexts in the sub-Saharan region, peers are of superordinate significance throughout social development, providing a life-long social framework (Weisner, 1989). Seniority-based norms reinforce those patterns, resulting in the children’s preference for their own age group.

Gender did not affect the selection of attachment figures, despite the uneven distribution of care responsibilities; this may reflect the unrestricted daily interactions of male and female clan members.

The kin-residential allocation of children’s attachment figures depended on their age. Concerning adult attachment figures, children focused their attention on their closest environment, restricting the number of potential adult attachment figures (in contrast to the frequently quoted proverb, “It takes a whole village to raise a child”). That focus possibly contributed to the exclusion of teachers as attachment figures, reinforced by the strictly formal character of relationships to teachers and the denigrating and distancing stance of adults and children toward the overwhelmed academic staff.

The same pattern of focusing on their closest environment was demonstrated for both younger and older peers. In addition to physical closeness translating into more possibilities of interaction, this preference can be attributed to the kin-based care system of the Nseh. Children continued to rely on the same adults and older peers who had already been included in their early attachment environment. Concerning younger compound siblings, child participants held positions of responsibility and played active, security-ensuring roles with their younger siblings. In their selection of adults, younger and older peers, children followed preexisting social norms and physical characteristics of the setting, including attachment figures in close proximity. However, as the adult supervision sharply decreases after the first few years, children started to move beyond compound boundaries in their peer groups, resulting in ties to same-aged peers that were less regulated by adult caregivers. Thus, they did not adhere to kinship-based restrictions in their selection of same-aged peers. While sociability and trust are generally linked to closeness of kinship in the clan, the majority of same-aged peers nominated were those with whom they did not share a residence or even a lineage. This contributed to the imbalance of peers and adults in their networks, as more peers became available for interactions and for attachment needs.

Reflecting on the Functional Adaptiveness of Children’s Attachment Networks

With respect to the functional characteristics of children’s attachment networks, we conclude that the emerging pattern can also be attributed to the distinct developmental setting. The majority of statements were based on the category of “Nutritional Care,” referencing the food provided in these relationships. With the instability and unpredictability of subsistence farming, the imbalance between the necessary workload and the decreasing yield, and the lack of alternative income,
nutritional supply is a main concern for the clan and a topic of many conversations. Due to their responsibilities in producing and preparing the family’s food, children adopt these concerns. As daily guardians of the granary, the repeated visual proof of an ever-decreasing supply of their main diet reinforces their worries. Consequently, nutrition is a need explicitly perceived as threatened. Thus, attachment figures providing dietary stability offered a feeling of sustained security. However, Nutritional Care was not limited to physiological aspects of security based on the social and affective dimensions of food. Thus, it also provided indirect emotional comfort. Due to the perceived shortage of the nutritional supply, the bonding nature of shared food is a general principle of the clan in establishing and maintaining social ties. Nutritional Care was mostly attributed to superordinate clan members, that is, adults and older peers as children still lack resources to provide food for themselves or others. Despite the responsibility of female clan members in the daily preparation of food, children equally referenced adults of both genders, possibly reflecting the cooperative division of farm work. Overall, gender was not related to the perceived functionality of adults, perhaps reflecting the relatively few gender-based differentiations and segregations in daily interactions, at least from the children’s perspective. While Nutritional Care was generally provided across all kin-residential structures, children recognized the specific significance of the hearth family, a kin structure based on a shared kitchen.

The second most common category of perceived functionality was “Kinship.” Kinship is a general social adhesive in the clan. The closeness of kinship is used to judge people’s reliability. With their system of shared care based on kinship ties, children had already experienced this social norm and had learned that they could feel comfortable and safe in kin relationships. Kinship ties also go along with social obligations. Thus, children have learnt that they can expect these individuals to provide a secure environment and assistance in times of need. The general significance of kinship in structuring social ties was reflected in the children’s response patterns, referencing this functionality in ties across all age groups and both for individuals in their elementary families and those with lineage ties. Future research will need to determine why it was of lesser relevance for older peers.

The third category describes attachment figures as providing “Assistance.” Children are aware of their responsible positions, experiencing their extensive chores as a burden. Thus, individuals providing assistance despite the children’s low position in the hierarchy offered relief from their workload and were therefore perceived as sources of security and comfort. In contrast to nutritional supply, children held enough resources and competencies to also provide assistance; they explicitly referenced their own contributions and the reciprocal character of some ties, also confirming that their responsibilities constituted a focal point in their self-perception. Accordingly, Assistance was referenced across developmental stages and kin-residential categories, highlighting the significance of children’s responsibilities across various settings. Although the children of the sample provided extensive assistance to their younger peers, the young peers did not yet have enough resources to reciprocate.

The least common category of “Affection” referenced children’s overtly expressed emotional needs. Those attachment figures established a sense of security based on their direct emotional support. Children also referenced their own emotional responsibility in relationships with younger peers. Overall, this category was almost exclusively limited to peers, especially same-aged ones. This finding could have been influenced by the rules of emotional display, restricting children from overtly directing emotions toward adults and older peers or expressing emotional ties to superordinate attachment figures in interviews, as demonstrated for earlier developmental stages in neighboring relational settings (Otto, 2014). However, the pattern also reflects the adults’ withdrawal from overt affective care that begins after weaning and the resulting significance of peers for the children’s explicit emotional development. This is also reflected in the kin-residential allocations. Affection was situated outside the lineage system where children were free to select their same-aged peers.
These patterns allude to a distribution of responsibilities between peers and adults following context-specific conditions, consistent with the idea of attachment being a collective resource distributed across a group of attachment figures. However limited the adults’ overtly emotional attention during middle childhood was, they continued to attend to Nutritional Care, an urgent and also energy-consuming source of insecurity. While this care strategy focused primarily on physiological security, adults also continued to offer a now indirect emotional care. Meanwhile, peer groups have taken over responsibility for children’s overt affective security, a gap resulting from adult withdrawal. Thus, our data contribute to research on the increased importance of peers for children’s social development after weaning in similar sub-Saharan cultures. Overall, it is important to note that the category of Affection only describes overtly expressed emotional responsibility and support, not the sense of emotionality itself. Thus, all relationships could be valued and experienced on an emotional level as the “affective bonds” described in mainstream attachment theory, while the sense of security they provide is, however, based on functionality that is not always linked to affection on a level of overt behavior.

Limitations and Future Research

Due to the fact that our study focused only on the children’s own perspectives, future research will need to include observational data, focusing on the frequency and quality of interactional patterns in relation to kin and age-based social allocations and the perceived functionality of each tie. Based on the observed response patterns, we concluded that functional categories are mutually exclusive, with every attachment figure making a single contribution. However, future research will need to further investigate whether this pattern of restricted functionality can also be observed through other methodological approaches. Generally, data will need to be assessed in larger samples to affirm the explored structural and functional patterns. As children commonly identify younger peers in their attachment networks, it will also be important to inquire in follow-up interviews how those relationships add to the children’s own feeling of security. To investigate changes in children’s attachment networks, it will be necessary to assess attachment patterns of younger children, especially during the transitional phase of weaning.

To further investigate the validity of our approach, future research must also include additional needs (e.g., companionship) to empirically differentiate attachment figures from other relationship types. Comparing these patterns in their structural and functional characteristics would help to demonstrate that our PEI-based strategy elicits a purposeful selection process and reveals a distinct segment of the children’s broad social environment.

The ecologically informed network approach will also need to be implemented in a Western sample to facilitate a broad and comprehensive cross-cultural comparison of the structural and functional attachment patterns during middle childhood and their adaptiveness that also considers the children’s own perspective of their attachment environment. Most previous studies in Western settings failed to describe the developmental setting, nor did they assess all possible attachment figures and their individual contributions. The inclusion of children’s perspectives in Western attachment research might also reveal greater relevance of peer relationships. School attendance allows more peers to be available, with ties that are stable and constantly available, in autonomous settings. Although structural similarities, especially concerning peers, could be expected in the children’s perspective across cultural contexts, the different responsibilities and resources available in each setting could result in marked differences in the functional contributions of their attachment figures.

On a conceptual level, more attention needs to be directed toward the term “attachment figure.” As there are many methodological strategies used in attachment research during middle childhood with varying concepts of this term and varying thresholds aiming to bring the growing number of relevant individuals into order, a conclusive definition based on empirical evidence
will help to consolidate the state of research to understand how the children’s feeling of security is sustained during this developmental stage.

**Overall Conclusions**

The goal of this study was to develop a comprehensive perspective on attachment during middle childhood in the relational developmental context of the Nseh. Based on our results, we conclude that children of the Nseh identify distinct individuals who contribute to their need for attachment. Moreover, their overall sense of security and comfort is based on the combined impact of these network members and their respective functions in fulfilling different aspects of security. The implication is that attachment in this context is a collective resource. Future research will need to employ this approach in other cultural contexts and developmental stages to determine whether the collective character of children’s attachment ties only emerges in interconnected social contexts or whether it is a consequence of the universal social diversity during middle childhood. Our findings support previous reflections that cultural contexts differ in both their strategies to establish security and trust and their norms of emotional expressiveness in attachment relationships (Keller, 2016; Weisner, 2014). While adults generate physiological and only indirect affective security, children overtly reference their emotional needs only when talking about their (same-aged) peers.

Our data also contribute to the discussion that the appropriateness and healthiness of children’s attachment patterns can only be adequately judged with an extensive knowledge of the developmental setting (LeVine, 2014). Childhood among the Nseh differs vastly from Western ideals and conditions of childhood shaped by nuclear families and material abundance, as well as a focus on parental attachment figures and children’s emotional needs. By Western norms of attachment, children of the Nseh would be understood as lacking emotional support from adults in their environment (cf. Shmueli-Goetz, Target, Datta, & Fonagy, 2011). Yet Nseh children adequately expressed their dependence and referenced the direct and indirect responsibilities of the attachment figures who provided security and comfort. Thus, future methodological approaches will need to determine whether the children’s need for attachment has been adequately met and whether the ensuing security provides the foundation for exploratory behavior and adaptive development.

We conclude that the developmental environment needs to be an inherent part of any approach to attachment to detect and consequently understand the adaptive patterns of attachment. Integrating cultural anthropological approaches into psychological childhood research further facilitated our ecologically informed investigation of attachment among the Nseh. Future studies of attachment will profit greatly from an extensive exploration of the distinct setting, its social norms, and sources of insecurity to analyze the adaptive structural and functional patterns that maintain children’s sense of security and comfort.

**Acknowledgments**

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**Data Availability**

The raw data supporting the conclusions of this manuscript will be made available by the authors, without undue reservation, to any qualified researcher.
Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Notes

1. It is important to note that the concept of siblings varies across cultures, most often not only including brothers and sisters with shared parents (Montgomery, 2009).
2. As there is no official guideline of Lamnso spelling, we are following the notation of the Lamnso bible.
3. To follow the culture-specific concept of siblingship, we did not differentiate between biological siblings and peers.

Supplemental Material

Supplemental material for this article is available online.

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