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Growing up among siblings: Sib-care in Zambia

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Abstract
The nature, extent and demographic characteristics (gender and family size) of sib-care were explored using a retrospective survey instrument among Zambian University students. The sample comprised of 200 University of Zambia students (17–31 years, M = 19.95, SD = 6.14). Two hypotheses were tested: Firstly, it was hypothesized that female participants perform more sib-care than males; and secondly it was hypothesized that participants from larger families perform more sib-care than those from smaller families. Results showed that sib-care was prevalent among the participants and playing with the child was the most popular activity while toilet training was the activity that was performed the least. In addition, females performed more sib care than males finally, family size did not predict the amount of sib-care performed. Implications are also discussed.

Keywords: Siblings sib-care Zambia · Africa

1. Introduction
Cross-culturally, exclusive maternal care of infants is an exception, rather than a rule (Yanagisawa *et al*., 2010 [1]; Werner, 1994 [2]; Lamb and Sternberg, 1992) [3]. In Zambia, like in most traditional non-Western societies, child care is shared within the family, among relations and older siblings. In most middle class Western societies parents tend to rely more on 'hired hands' for support. The care of younger children by their older siblings or sib-care is widespread although interestingly, the phenomenon has remained relatively understudied. Most studies on sib-care have been conducted using ethnography where the majority of studies are qualitative and have considered sib-care as a response to crises (e.g. Orphan-hood, placement into foster homes, HIV etc) (Yanagisawa *et al*., 2010) [1]. A synthesis of studies on sib-care found that almost all of the 'few' available studies (e.g. Evans, 2012) [4] used qualitative approaches and no study used a quantitative approach to measure sib-caregiving (Yanagisawa *et al*., 2010) [1].The current study adds insight to the ongoing discourse on sib-care, in Zambia. This study explored sib-care from a quantitative perspective and within normal families, a perspective lacking in much of the current discourse

Parenting is suggested to be a main reason why people in different cultures differ from one another (Super *et al*., 2011 [5]; Keller, 2003) [6] and has been considered a powerful instrument for the transmission of values and practices between generations (Keller, 2013 [6]; Nsamenang, 1992). Across cultures, parenting systems vary. It is well established, nevertheless, that cross-culturally the biological mother is the primary caregiver and therefore the (primary)attachment figure within the first half-year of an infant (Keller, 2013) [6]. A cross cultural study by Keller (2013) [6], to capture the social experiences of infants in the Gujarati (India) and Nso (Cameroon) villages as compared to middle - class German babies, confirmed the mother as the most important caregiver in all three communities. There are of course exceptions and within-culture variations to this norm. In middle class Western societies, the infant spends most of their time in the first months only with the mother (Hewlet and Lamb, 2002) [9]. With few others within the household, infant care is performed mostly by the mother and very few close relations, like siblings and the father. Child participation in caring for younger siblings exists but is suggested not to be prominent. Among several African societies including Zambia and especially in more rural societies, where urban and foreign contamination are less prominent, child care is a collective enterprise in which parents, kin and siblings are active participants (Nsamenang, 1992) [8].

Many of the studies exploring the gender dynamics of care among children show that girls perform significantly more care than boys in the home (Evans, 2012 [4]; Miller, 2005 [10]; Zukow-Goldrin, 2002) [11]. This is probably due to gendered expectations of girls' responsibilities for domestic work and constructions of care (Evans, 2012) [4]; a notion of socializing girls to take over the 'mothering' responsibility. Despite cultural variations, findings

Confirm this notion. A study conducted in Denmark revealed that, girls cared more than boys. They also displayed more car in single parent, especially mother-headed, households than homes where both parents live (Bonke, 1999). A substantial amount of work in Southern Africa has also shown that girls perform the majority of the care for their younger siblings, compared to boys even though boys also contribute somewhat to this role (Evans, 2012 [4]; Robson and Ansell, 2000). A study on youth-headed households in Tanzania and Uganda found that girls were more involved in sib-care than boys, who often perceived their care contribution as typically economic (Evans, 2012) [4]. Nevertheless, other variables may potentially moderate this relationship, including age and sibling birth order. Generally boys serve as caregivers in the absence of an elder sister.

1.2. Statement of the problem

Despite the majority of people across the world grow up with siblings; as much as 80 % in the United States of America and Europe and more in African countries like Zambia (Dunn, 2007) [3], the study of sib participation in child care has remained relatively little. Sib-care itself is relatively widespread across cultures but presumably more in collectivistic than individualistic societies. Research conducted in the West focusing on house-work has shown that children are perceived as 'dependents' and 'care recipients' rather than 'contributors' or 'caregivers', reflecting a Western notion of children as 'precious rather than useful' (Miller, 2005, p2) [10]. This is in contrast to the dominant notion in the local societies which seem to value older siblings as carers of younger siblings. In Zambia, as in many other African societies older siblings are expected to look after their younger siblings, sometimes without adult supervision and for considerable periods, in order to free up time for mothers to engage in other social reproductive or productive activities (Evans, 2012) [4].

Children play a significant role in caring for their younger siblings (Evans, 2012 [4]; Wane, 2000 [14]; Nsamenang, 1992) [8]. In most African societies including Zambia there exists a shared philosophy that views parenting as an integral component of survival which posits that children do not solely belong to their biological parents and that 'parenting' can be performed by 'others,' including siblings. Most siblings engage in caregiving from the age of 5 to 10 years and in some societies and instances even earlier than that (Zukow-Goldrin, 2002) [11]. This includes performing activities such as dressing, bathing, feeding, playing with and carrying their younger siblings (Evans, 2012) [4]. These roles are viewed as an important part of younger children's informal training and socialization within the family and community (Serpell *et al*., 2011 [15]; Evans, 2012) [4]. Siblings are conceived as 'culture brokers', introducing their sisters and brothers to ways of acting and knowing through unique styles of interaction" (Zukow – Goldrin, 2002, p. 278) [11].

1.3. Aim

The aim of the study was to explore sib-care in Zambia.

2. Objectives

The objectives of the study were to

1. Explore the nature and prevalence of sib-care in Zambia
2. Examine gender differences in sib-care.
3. Examine the effect of family size on sib-care in Zambia.

2.2. Hypotheses

1. Females perform care more than males
2. Participants from larger families would perform more care than participants from smaller families.

3. Methods

3.1. Participants

The study sample consisted of 200 first year University of Zambia students in the Introduction to Psychology (PS 101) course (17 to 31 years, M = 19.95, SD = 6.14; 65% females). The males (M = 20.86, SD = 2.92) were older than the females (M = 19.45, SD = 2.06), t (105) = 3.56, p <.01. There were no group differences in terms of nuclear and extended family size in relation to the families from which the male and female participants were drawn (t (191) =.47. p =.64) and t (191) = 1.15, p =.25) respectively.

Table1: Summary Descriptive Statistics for Participants' Background/Family Composition Data Showing Family Members Present/Absent and Differences between Zambian and Dutch Participants

Nuclear Family	n (%)	M (SD)	Extended family	n (%)	M (SD)
Mother	186 (95)		Grandmother	55 (28)	
Father	168 (86)		Grandfather	18 (9)	
Older Sister	118 (61)		Uncles	61 (31)	
Younger Sisters	116 (60)		Aunts	70 (36)	
Olderbrother	114 (59)		Niece	31 (16)	
Youngerbrother	106 (54)		Nephew	25 (13)	
Youngersiblings (N)		1.99 (1.10)	Cousin (older)	87 (44)	
Sib 1 (Age)		6.23 (4.21)	Cousin (younger)	40 (20)	
Sib 2 (Age)		2.55 (3.30)	Total family (extended)		9.50 (4.65)
Sib 3 (Age)		.75 (1.90)			
Sib 4 (Age)		.14 (.84)			
Total Family – Nuclear (N)		5.77 (2.47)			

Note: 194 < n > 197

3.2. Procedure

Data were collected using a questionnaire. Participants were asked to complete the questionnaire during various tutorial hours. At the end of each tutorial session, the questionnaires were collected. The questionnaire took between 15 to 20 minutes to complete

3.3 Overview of measures

3.4 Demographic data were self-reported and included information on *Age*; *Sex*; *Nationality* and *Ethnicity*. Data on *Family composition*- the number of people that lived in participants' households at the time, were also obtained.

3.5. Socio-economic status: (SES) was measured using the *Home Possessions Index* (HPI). The HPI is an 11 item scale with questions that assessed the availability of basic facilities in the household (household wealth). These items referred to the time in participant's lives when they were between the ages of 7 to 13 years. The HPI contains items like "*Did you have a television in your home? Did you have a stove at home?; Did you have a car at home?*". Participant responses on the items of the HPI revealed a ceiling effect as most of the respondents answered the items to the affirmative. Consequently, eight of the items with ceiling effects were discarded from the measure. This left three items: 'HPI 2 – *did you have a stove at home?'*; 'HPI 5 – *did you have a flushable toilet?'* and 'HPI 6 – *did you have a car at home?'* These items were then used to construct an SES measure.. A reliability analysis of the new measure produced a Cronbach Alpha, based on standardised items, of α =.71.

3.6. Sib-care was assessed by having participants complete the 'UNZA Sib-care checklist' (USC) (Mooya, Sichimba & van IJzendoorn, 2012). This is a checklist asking participants whether or not they participated in a range of sib-care activities including *feeding*, *playing with*, *bathing*, *dressing*, *comforting*, *transporting*, *carrying the baby*, *toilet training, protection, setting limits and discipline*; how frequently they engaged in these activities and how they felt while doing these activities, when they were between the age of 7 to 13 years. Participants responded 'yes' (1) or 'no' (0) to indicate which activities they had been engaged in. Participants with more 'yes' responses scored higher than those with more 'no' responses. A total caregiving scale was developed from the items of the scale. The alpha reliability coefficient, based on standardised scores, was α =.77. Sib-care activities were assessed for situations in which parents were '*at home*' and when parents were '*not at home*'.

4. Results

4.1. Sib care activities

The sib-care activity performed the most in caring for their younger sibling was '*playing*'. And the activity performed the least was '*toilet training*', as can be seen from Table 2 (sib care activities, parents at home).

Table 2: Summary frequencies (percentages) of sib-care activities performed when parents were 'at home' /'not at home'.

	Parents *at home*	**Parents *not at home***
Sib-Care Activity	n (%)	n (%)
Feeding	142 (76.8)	156 (83.9)
Playing	174 (93.0)	176 (93.0)
Bathing	139 (75.1)	139 (75.1)
Dressing	144 (77.8)	151 (82.5)
Comforting Baby	128 (69.2)	133 (72.7)
Transporting Baby	71 (39.4)	86 (48.3)
Pushing/Carry Baby	104 (55.6)	108 (59.0)
Toilet Training	68 (37.2)	97 (53.9)
Protection From Accidents	157 (84.4)	150 (81.1)
Setting Limits	120 (65.9)	128 (29.3)
Discipline	139 (74.3)	139 (75.1)

Note: Table includes only participants with younger siblings and excludes "only children" and "last born children"

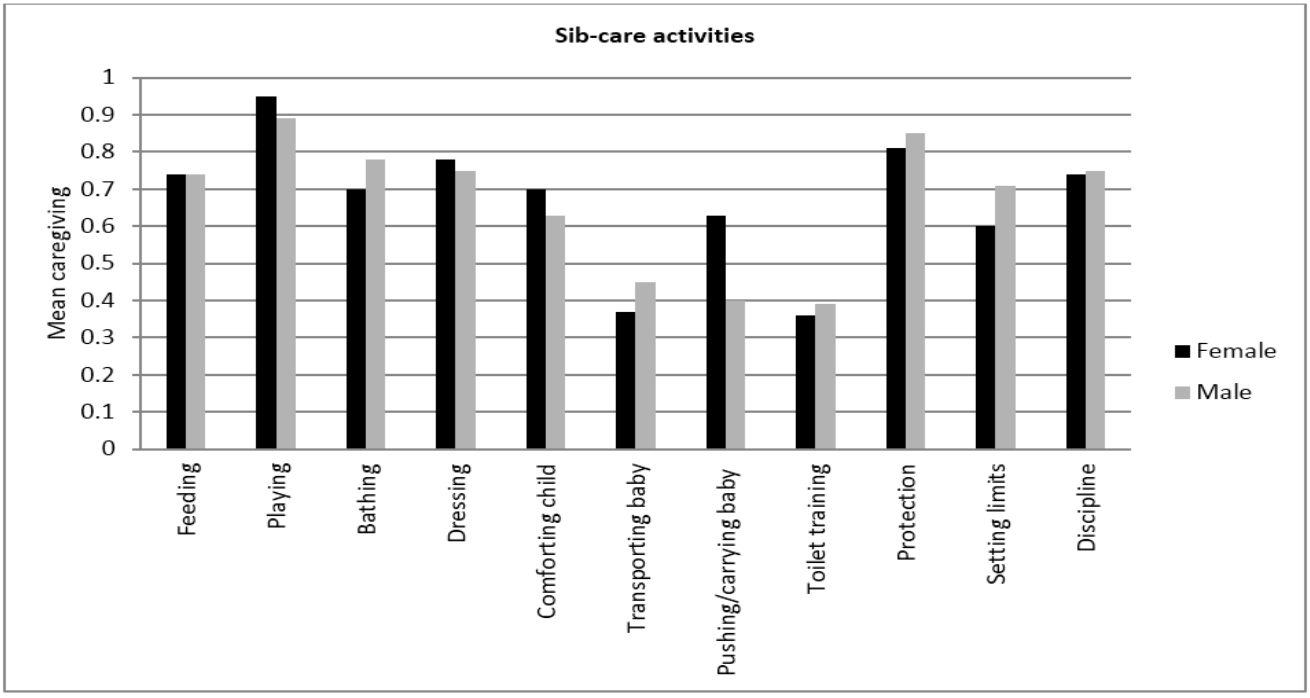

Fig 1: Sib-care activities performed

4.2. Gender and sib-care

To test for gender differences in sib-care performed an independent samples t test was performed. It was hypothesized that female participants would perform more sib-care than their male counterparts. The independent samples *t* test showed that there were no gender differences in the amount of sib-care performed between the males (M = 14.70, SD = 2.38) and the females (M = 14.48, SD = 2.43), *t* (170) =.58, *p* =.56.

4.3. Family size and sib-care

To assess which whether there was a relationship between family size and sib-care, a multiple regression analysis was conducted Predictors included SES; the 'number of younger siblings' participants had and family composition and gender.

Table 3: Results of hierarchical regression predicting sib-care with various background variables.

	Model 1				**Model 2**		
	B	SE	β		*B*	SE	β
SES	.08	.21	.03		.08	0.21	.03
Younger sibling(s) (*n*)	-.02	.17	-.01		.003	.18	.002
Family composition (*n*)	.07	.08	.07		.08	.09	.08
Gender	-.16	.42	-.03		-.11	.44	-.02
R^2	.01				.01		
Δ R^2	.01				.01		
F change	.27				.18		

Note: * p <.05; ** p <.01; β – standardized regression coefficient; ^{LG} – log transformed variable; Gender (0 = male, 1 = female); SES = Socio-economic status

Results from the regression analysis predicting sib-care (Table) showed that the model did not significantly predict sib-care. Contrary to the hypothesis, family size did not predict the amount of sib-care that someone performed (β = -.08, *p* =.36). In addition, other demographic variables like SES, participant's age and gender the number of people present in a family did not predict the amount of sib-care performed, as shown in Table 3.

5. Discussion

The objectives of this research study were explore the nature and extent of sib-care in Zambia; examine gender differences in sib-care; and explore the relationship between family size and sib-care. The results revealed that the sib-care activity performed the most was *playing* with the baby. The sib-care activity performed the least was *toilet training.* The results also showed that both males and females reported performing the same amount of work. Finally, the results showed that family size did not predict the amount of sib-care that a participant performed.

In trying to study the extent of sib-care overall the results showed that sib-care was very prevalent with the majority of the participants reporting that they participated in sib-care when they were aged between the ages of 7–13 years. This finding is compatible with cross cultural research on care that has shown that in more collectivistic societies, like Zambia, there is more child participation in care than compared to more individualistic societies. Interestingly there is evidence that suggests that in more collectivistic society's child participation in child care is perceived as an obligation while in more individualistic societies children participating in household chores might ask for payment or other forms of compensation (Miller, 2005) [10].

The notion of sib (ling) care itself has not been without controversy. For a long time, and perhaps because of the paucity of research in the area, there has been a tendency of 'lumping' the outcomes of what can be termed as complementary vis a vis replacement sib-care into one 'pot'. Complementary sib-care entails the additional participation in sib-care - the expected involvement of older siblings under adult supervision in the home context. Contrary, replacement sib-care is the involvement or indeed 'taking over', in child care, by older siblings in contexts where parental care is diminished or indeed impossible e.g. sickness, death, abandonment. Studying sib-care without making this important distinction between these two constructs has resulted in inaccurate findings and effect sizes. For instance there is a danger of reporting inflated amounts of sib-care in a 'complementary' context when in actuality the sample involved was derived from a 'replacement' context such as sib-care in the context of HIV/AIDS and child headed households. The impact of complementary versus replacement sib-care on the siblings as well as on the sib-caretakers might well be very different. There is therefore a need to disentangle and contextualize sib-care.

In examining the gender dynamics embedded in sib-care, the findings showed that females did not perform significantly more sib-care than males. This finding is interesting and does is not compatible with several studies conducted within the discourse of child caregiving in general (Zukow-Goldrin, 2002 [11]; Bray, 2009); Miller, 2005) [10] and sib-care in specific. (Evans, 2012) [4] And tends to uphold the assertion that females perform more care than females, resulting from the gendered expectation of girls' responsibilities for domestic work and constructions of care – the belief that girls should be socialized to take over the *mothering* responsibility. One plausible explanation for this finding is that since data were collected only on sib-care tasks performed when parents were present at home, the data did not distinguish between what children do in the absence of parents – a situation which could lead to a clear distinction between what girls and boys might really do without the influence of parents. This finding also suggests that when parents are present, they can mediate the potential gender effects of care in the home.

The notion of sib (ling) care itself has not been without controversy. For a long time, and perhaps because of the paucity of research in the area, there has been a tendency of 'lumping' the outcomes of what can be termed as complementary vis a vis supplementary sib-care into one 'pot'. Complementary sib-care entails the additional participation in sib-care - the expected involvement of older siblings under adult supervision in the home context. Contrary, supplementary sib-care is the involvement or indeed 'taking over', in child care, by older siblings to supplement adult care in contexts where parental care is diminished or indeed impossible e.g. sickness, death, abandonment. Studying sib-care without making this important distinction between these two constructs has resulted in inaccurate findings and effect sizes. For instance there is a danger of reporting inflated amounts of sib-care in a 'complementary' context when in actuality the sample involved was derived from a 'supplementary' context such as sib-care in the context of HIV/AIDS and child headed households. The impact of complementary versus supplementary sib-care on the siblings as well as on the sib-caretakers might well be very different. There is therefore a need to disentangle and contextualize sib-care.

This study further explored the relationship between size and sib-care. It was hypothesized that participants from larger families would perform more sib-care compared to those who came from smaller families based on the assertion that perhaps they would have more *younger* siblings to care for. The findings showed that family size was not predictive of sib-care. The size of the family from which the participants came from did not influence the amount of sib-care that they performed, even after controlling for the number of younger siblings that an individual had. One possible explanation for this finding is that in larger families, where more sib-care would be expected, there are more 'helping hands' and therefore even when someone has more *younger* siblings, there are more people to help with the care. It has already been highlighted that in Zambia, as in many collectivistic contexts, child care is a shared enterprise. This could then act to mediate the effect of family size on the amount of sib-care performed. There were some limitations to the present study. This study was retrospective in design and collected data via self-report measures. There is a possibility participants did not 'accurately' recall the frequency and intensity of sib-care they performed. However, as part of a larger study, this design enabled the researcher to capture pertinent cross-sectional data important for analysis that also formed the basis for subsequent studies. Nevertheless, despite memory loss that may arise with time and age, it has been show that this does not affect the memory of activities practiced on an almost daily basis (Rabbit & Abson, 1990) [17] and therefore it seemed plausible to use self-report instruments to collect retrospective data on sib-care activities as these are everyday activities.

Despite the common knowledge of the existence of sib-care, especially in the African setting and Zambia in particular, it is hoped that future studies will seek to document the prevalence, extent, and nature of this phenomenon so as to provide an objective and broader picture. This should be considered not just in the context of crises like orphan hood and institutionalization but also among 'normal' families. Future studies should consider the 'complementary-supplementary' sib-care contrast and consider reporting findings within the different contexts. In addition, an examination of the phenomenon of attachment and care across generations would help contextualize care and its transmission, that is, a study combining grandparents, parents, children and young infants.

In conclusion, this study reveals several important outcomes to the study of sib caregiving in Zambia. Sib-care is very prevalent. There were no gender differences in sib-care among the participants in this study. Family size also did not seem to matter in relation to the amount of sib-care that an individual performed. Considering that the majority of people in the world are born among siblings, sibling involvement in caregiving is a phenomenon that will continue existing and should be understood and harnessed to achieve optimal child development.

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