

# Going Home

## How Mothers Maintain Natal Family Ties in a Patrilocality Society

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Published online: 25 January 2017

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**Abstract** Humans have been called “cooperative breeders” because mothers rely heavily on alloparental assistance, and the grandmother life stage has been interpreted as an adaptation for alloparenting. Many studies indicate that women invest preferentially in their daughters’ children, but little research has been conducted where patrilocal residence is normative. Bangladesh is such a place, but women nevertheless receive substantial alloparental investment from the matrilineal family, and child outcomes improve when maternal grandmothers are alloparents. To garner this support, women must maintain contact with their natal families. Here, the visiting behavior of 151 interviewed mothers was analyzed. Despite the challenges of patrilocal residence and purdah, almost all respondents visited their own mothers, and mothers-in-law were visited far less. This contrast persists in analyses controlling for proximity, respondent age, postmarital residence, family income, and marital status. These results affirm the importance women place on matrilineal ties, even under a countervailing ideology.

**Keywords** Bangladesh · Visiting · Kinship · Alloparental care · Grandmothers

Human beings have comparatively long childhoods, and multiparous women typically give birth while one or more older children still require provisioning and care. This unusual life history co-evolved with a form of cooperative breeding whereby various alloparents, mainly close kin, help parents raise their children (Hrdy 2009; Konner 2010). Also unusual is the prolonged postreproductive lifespan of human females, and it has been argued that grandmotherhood is a specialized alloparental life stage (Hawkes et al. 1989, 1998) and that investment in daughter’s children is an adaptation (Euler and Weitzel 1996; McBurney et al. 2002).

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The mother's relatives are often more heavily involved in alloparenting than the father's, with maternal grandmothers playing an especially large role (e.g., Coall and Hertwig 2010; Euler and Michalski 2008; Gaulin et al. 1997; Perry et al. 2014; Pollet et al. 2009). Generalizing may be premature, however, because almost all explicit comparisons of matrilineal versus patrilineal alloparenting have been conducted in societies in which marital residence is predominantly neolocal (with neither of the newlyweds' families), especially modern Western nations.

Research in a broader range of societies has addressed the apparent effects of having living maternal and paternal grandmothers on child survival, but whether any such effects are mediated by alloparenting is unknown. Sear and Mace (2008) reviewed evidence from 45 small-scale societies indicating that the presence of maternal grandmothers is more consistently associated with improved grandchild survival than the presence of paternal grandmothers. Strassmann and Garrard's meta-analysis of grandparental and grandchild survival in patrilineal populations found that "the survival of the maternal grandmother and grandfather, but not the paternal grandmother and grandfather, was associated with decreased grandoffspring mortality" (2011:201), but they concluded that the data are more consistent with grandparent/grandchild resource competition than with alloparental caregiving effects. If women's social motives have evolved under conditions in which maternal grandmothers have a consistently more beneficial effect on their children than paternal grandmothers, then we might expect that young mothers would be motivated to maintain close ties to their own mothers even when social norms make that difficult.

Leonetti et al. (2005) found that among Bengali families in India, the paternal grandmother being alive at the time of the mother's first birth was associated with improved child survival, and when the paternal grandmother was in the household (versus not co-residing), grandchildren were heavier, but they did not address whether maternal grandmothers affected child outcomes. Are mother's relatives heavily involved in alloparental caregiving even in a patrilineal society such as that studied by Leonetti and colleagues? In at least one other Bengali population, the answer is "yes." Marriage in Matlab, Bangladesh, is normatively patrilineal, with patrilineal families occupying joint family compounds, or *baris*, where a senior couple resides with their sons, daughters-in-law, and grandchildren. According to one ethnography,

The custom of patrilineal marriage removes a newly married woman from her family of birth and places her in her husband's locality. Preference for lineage and village exogamy attenuates a woman's ties with her family of birth and reduces the possibility that her family will intervene on her behalf after marriage (Cain et al. 1979:406–7).

More recent accounts similarly imply that married women lose contact with their natal families and must rely on their in-laws for support (Amin 1998; Bhuiya et al. 2005; Kenner et al. 2008; Rao 2012). But despite the obstacles, mothers in fact derive substantial alloparental assistance from their natal families. I have reported elsewhere (Perry 2017a) that (a) most mothers of young children in intact first marriages indeed reside in their in-laws' *baris*, but a substantial minority do not (43% of those whose husbands are present, and 49% of those whose husbands are absent as migrant laborers); (b) maternal grandmothers provide more childcare than would be expected

on the basis of bari co-residence, and paternal grandmothers provide less; and (c) material investments in children by persons outside the immediate household come primarily from the mother's relatives.

In the modern West, intergenerational investment has been linked to visiting patterns (Essock-Vitale and McGuire 1985; Euler and Weitzel 1996; Lawton et al. 1994; Pollet et al. 2007; Tanskanen and Danielsbacka 2012), and women and their children tend to visit the children's maternal relatives more often than paternal relatives, even when proximity is controlled (Euler and Michalski 2008; Pollet et al. 2013, 2006; Smith 1988; Uhlenberg and Hammill 1998). These visiting patterns may reflect both relationship closeness and a specific motivation to maintain access to alloparental support (Scelza and Bliege-Bird 2008; Uhlenberg and Hammill 1998). Indeed, a woman's emotional closeness to her mother and to her mother-in-law appears to mediate the receipt of childcare assistance from them (Danielsbacka et al. 2015).

How do married women in rural Bangladesh maintain the ties with their natal families that make alloparental investment possible? I address this question by analyzing women's self-reported visiting practices, addressing how marital status, postmarital residence practices, familial laterality, family income, and the required travel time combine to determine which of the children's grandmothers is visited and how often. The method of travelling in Bangladesh varies seasonally. Bangladesh is largely an alluvial plain, and both monsoon rains and melt waters from the mountains to the north cause extreme seasonal flooding. During high water, travelling by boat is common, whereas on higher ground and in the dry season, travelling by foot, bicycle rickshaw, or CNG (a motor-driven three-wheeled, covered cart) is more common, depending on the distance being travelled. Over longer distances, buses are also available. All of these forms of transportation require payment, except walking (based on fieldwork log observations and open-ended interviews). At the time of this research (2014), telephone contact between women and their mothers was still rare.

The Matlab population is about 90% Muslim and 10% Hindu, and *pardah* (the seclusion of women) is observed by both religious groups (Feldman and McCarthy 1983; Harris 2001; ICDDR,B 2015), which further limits women's ability to visit family and friends, especially when a bari is relatively isolated in the midst of rice paddies, as is often the case. Women almost always wear clothes covering the length of their arms and legs and a large scarf (*orna*) looped over their shoulders to cover their chest area. When a woman leaves the bari area she often adjusts her *orna* to cover her head, typically leaving her face exposed. More devout women will wear additional garments to cover their faces and neck, and sometimes even a *burkha*, although this is not common. When women leave the bari, they are typically accompanied by their husband, another male family member, or their children. During the interviews for this study, respondents talked about visiting family for Eid and other religious and secular holidays, which would typically entail going with their husbands and children. Women seen out on their own were usually older women or girls going to and from school in groups. It was rare for women to go to the market alone, and as one resident of the area reported "women who go to the bazaar have loose skirts." Nevertheless, as the results to follow demonstrate, almost all mothers of young children make the efforts necessary to visit their own mothers.

## Methods

Matlab, Bangladesh, was chosen as the field site because of its patrilocal and patrilineal social structure, quality census data, and a 50-year history of research with the local population. The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) has been collecting information on every household in Matlab (population about 230,000) since 1964, recording each birth, death, in-migration, out-migration, marriage, and divorce, at frequent intervals (currently every two months; ICDDR,B 2015). The resultant database permits analysts to draw random samples on various criteria from across the jurisdiction. Data reported here span four family types—namely, two-parent families and three kinds of one-parent families: where fathers were absent migrant laborers, where fathers were deceased, and where parents were estranged or divorced. These family types range from normative to shameful (Bhuiya et al. 2005; Rahman 1997) and provide a window on how mothers maintain family connections in diverse circumstances.

Exact relative frequencies of these four family types in Matlab are unknown because my categories do not match those in official reports. For example, a divorce was often registered only on the day the husband remarried, so the official marital status “divorced” is rare (0.3% of Matlab males in 2012; ICDDR,B 2015), but many more couples were estranged (having lived apart for more than two years, without contact or financial support), which I treat as equivalent to divorce. That said, two-parent families are certainly most numerous, followed by migrant labor families, widows, and divorcées (ICDDR,B 2015).

As a basis for sampling the different family types without bias, random samples of 100 of each type were initially drawn from the ICDDR,B database. Eligibility criteria required interviewees to be at least 19 years old and the primary caregivers of one or more children under 13 years of age. Primary caregivers from these random samples were then approached for interview, and 175 structured interviews were completed within the time available. In this report, analysis is confined to cases in which the primary caregiver was the child’s birth mother ( $N = 151$ , with a total of 245 dependent children): 60 in two-parent families, 52 in migrant labor families, 28 widows, and 11 divorcées. Numbers differ across family types for a combination of reasons. The children of divorcées were often being reared by primary caretakers other than the mothers, and those interviews are excluded here. This was also true for some children of widows. Another reason why numbers of divorced families are low is that most of the random sample drawn on this criterion consisted of married women with a past divorce but no children of that former marriage, and thus did not fit the intended criterion of women raising children of divorce. Finally, when widows and divorcées were sought for interview, they were more likely than mothers in intact marriages to not be at home or to have moved. Importantly, the different numbers do not represent differential refusal to participate; only two women declined the request to be interviewed.

The structured interviews elicited basic demographic information, family income, co-bari and co-household residence, the identities of childcare providers and resource provisioners, and education levels of parents and children. Most important for present purposes, each respondent was asked how often she visited each of her and her husband’s living parents and siblings who did not reside in the same bari as the respondent, and the requisite travel time to visit them.

The primary dependent variable in this study is the frequency of visiting. The joint family structure and bari residence practices in Bangladesh necessitate that we define “visiting.” A bari typically contains several households, but because women do much of their work in a communal bari yard and encounter one another at open doorways and windows, maintaining contact with bari co-residents requires little effort and may even be difficult to avoid. Thus, only contacts with people outside of the respondent’s bari are considered “visiting.” Questions focused on the mothers’ visiting of their natal kin and in-laws; I did not ask whether a child was present during the visit, nor about visits by others to the respondent’s home, nor about visiting that did not include the respondent, since the issue of interest was the effort mothers make to maintain relationships with extended family. Visiting frequency was coded as an eight-level ordinal variable: never, yearly or less, less than twice yearly, two to four times yearly, quarterly to monthly, monthly to weekly, more than weekly but less than daily, and daily. The full eight categories are used as the dependent variable in ordinal regressions but are reduced to five categories in the figures. Differential frequency of visiting could, in principle, result from differential proximity, so the independent variables in all analyses include “distance,” operationalized as requisite travel time and also coded ordinally (<15 min, 15–30 min, 30–60 min, 1–2 h, 2–3 h, 3–4 h, 4–5 h, >5 h).

Ordinal logistic (ologit) regressions were conducted, with frequency of visiting the mother or mother-in-law as the (ordinal) dependent variable, and five potential predictors: “distance” (travel time), respondent’s age, household income, and four dummy variables. Household income (see Perry 2017a, for details) was adjusted for family size by dividing by the square root of the number of household residents, a standard method for addressing the economies of scale in larger families (see, e.g., Johnson et al. 2005). Patrilocal residence, which characterized about half of the respondents, was treated as a dummy variable because it might reflect differences between normative and non-normative family types. Another dummy distinguished migrant labor families from all other family types on the grounds that contact with the father’s family may be affected by his presence/absence. Both divorce and widowhood were treated as additional dummies to assess whether these particular non-intact marital statuses affect visiting of either mothers or mothers-in-law. An additional ologit regression included mothers and mothers-in-law together, distinguishing them as an additional independent variable (“laterality”).

## Results

Table 1 enumerates the women in each respondent group, and how many of their mothers and mothers-in-law were deceased, dwelt in the same bari as the respondent, or dwelt elsewhere. The column headed “not in same bari” indicates how many were available to be potentially visited.

There were 139 grandmothers who were potentially visitable (i.e., alive and not dwelling in the same bari as the respondent): 100 mothers (maternal grandmothers) and 39 mothers-in-law (paternal grandmothers). Visiting data were available for 136 of them: 99 mothers and 36 mothers-in-law. Figure 1 portrays the percentages of those mothers and mothers-in-law who were reportedly visited at various frequencies. Mothers were visited at significantly higher frequencies

**Table 1** Numbers of respondents in each family type and status (whether living and, if so, where) of their mothers and mothers-in-law

Family type	N of respondents	Own mother			Mother-in-law		
		Deceased	In same bari	Not in same bari	Deceased	In same bari	Not in same bari
Reside with husband	60	5*	6	49	16*	28	16
Migrant labor	52	5	12	35	16	23	13
Widow	28	12	2	14	19	7	2
Divorcee	11	2	7	2	2	1	8

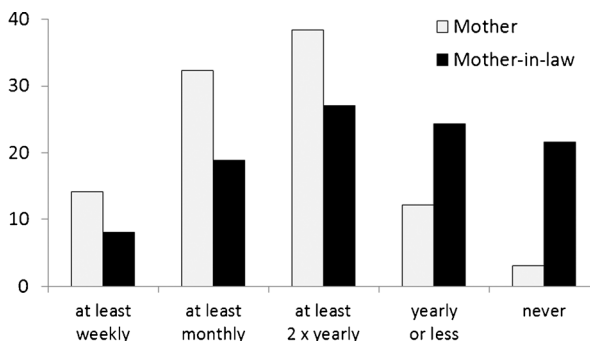
\*The category “deceased” includes one case in which the respondent did not know whether her mother was alive, and one case in which the same was true for the mother-in-law

than mothers-in-law, who were substantially more likely to be visited rarely or not at all ( $\chi^2_{df=4} = 17.56, p = 0.002$ ).

Table 2 shows the results of the ordinal logistic regressions for women visiting their mothers ( $n = 96$ ) and mothers-in-law ( $n = 33$ ). The numbers are lower because of missing information on household income. As expected, lower accessibility (greater travel time) was associated with relatively infrequent visiting of both mother and mother-in-law. No other variable affected either except that mothers-in-law were scarcely visited by divorcees. When both grandmothers were included in the same analysis (not shown), only distance and laterality were significant predictors, with the maternal grandmothers being visited more often.

To further address the potential influence of residence (patrilocal, matrilocal, or neolocal) on visiting, an analysis was conducted including only neolocally living respondents who dwelt with neither their mothers nor their mothers-in-law, although both were alive. The results are shown in Table 3. Even though the sample size is small (45 cases), laterality and distance continue to be significant predictors of visiting, with maternal grandmothers and those who dwelt nearer being visited more often.

In sum, the requisite travel time is a strong predictor of visiting frequency in all analyses, as expected, but the tendency for respondents to visit their mothers more often than their mothers-in-law persists net of distance. Figure 2 shows the effects of laterality and

**Fig. 1** Percentages of the respondents' mothers versus mothers-in-law who were visited at various frequencies, among those known to be alive and not residing in the same bari as the respondent

**Table 2** Ordinal logistic regression models analyzing predictors of the frequency at which respondents visited their mothers and mothers-in-law, among those known to be alive and not residing in the same bari as the respondent

Independent Variable	Mother			Mother-In-Law		
	Coefficient	95% CI	<i>p</i>	Coefficient	95% CI	<i>p</i>
Distance (Travel Time)	-.702	-.981, -.423	.000	-.430	-.799, -.061	.023
Respondent Age	-.003	-.062, .055	.908	-.060	-.158, .038	.227
Adjusted Household Income*	-.113	-.799, .574	.748	-.704	-1.55, .144	.104
Patrilocal Dummy	.013	-.782, .807	.975	1.728	-.608, 4.064	.147
Migrant Labor Dummy	.148	-.720, 1.016	.739	.575	-.961, 2.111	.463
Widow Dummy	-.193	-1.103, 1.117	.773	.139	-3.489, 3.767	.940
Divorce Dummy	1.619	-1.375, 4.612	.289	-5.739	-9.090, -2.387	.001
<i>N</i>	96			33		
Pseudo R <sup>2</sup>	.10			.25		
Log Likelihood	-146.4			-47.6		

\*Adjusted Household Income is based on intervals of 100 K Bangladeshi taka (BTK)

proximity (dichotomized) when respondents are partitioned into those in intact marriages (the two-parent and migrant labor groups) and those whose marital relationships had ended (the widows and divorcées). It is evident that widows and divorcées often had little or no contact with their mothers-in-law, but even women whose relationships with their husbands remained intact exhibit preferential visiting of their own mothers over their mothers-in-law, especially when distance made visiting demanding.

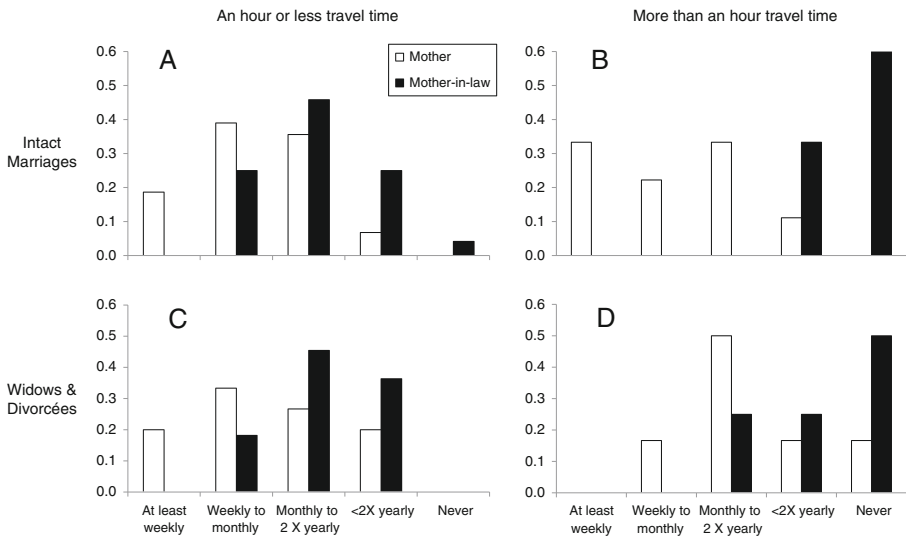
## Discussion

In Matlab, women normatively (both in greatest frequency and social expectations) live patrilocally and engage in purdah, which imposes constraints on their meeting with people outside of the patrilocal bari. Despite these cultural norms, respondents visited their own mothers at higher frequencies than their mothers-in-law, and this difference did not derive from differences in proximity or residence type (patrilocal, matrilocal, or neolocal). Preferential visiting of one’s own mother was, unsurprisingly, especially true of widows and divorcées, many of whom were no longer in contact with their former in-laws (see

**Table 3** Results of an ologit analysis of the predictors of neolocally residing women’s frequency of visiting their mothers or mothers-in-law, who were known to be alive and were not residing in the same bari as the respondent

Independent Variables	Coefficient	95% CI	<i>p</i>
Distance (travel time)	-.723	-1.110, -.335	.000
Laterality (Mother-in-law =0; Mother =1)	1.441	.073, 2.809	.039
Respondent’s Age	.004	-.074, .081	.923
Adjusted Household Income (100,000BTK)	.001	-.3.640, 2.400	.149
Migrant Labor dummy	.706	-.729, 2.142	.335
<i>N</i>	45		
Pseudo R <sup>2</sup>	.18		





**Fig. 2** Proportions of the respondents' mothers and mothers-in-law who were visited at various frequencies. Data are confined to women who did not reside in the same bari as the respondent. The panels distinguish travel time (a & c less than an hour away, and b & d more than an hour away) and whether the respondent was in an intact marriage or not (widow or divorcée)

also Bhuiya et al. 2005; Rahman 1997; Shenk et al. 2013). But even women in intact marriages visited their mothers more than mothers-in-law with whom they did not reside. The definition of visiting, which is restricted to those relatives living outside of the respondent's bari, may affect the results found here. For instance, women who do not live with their mothers-in-law may be qualitatively different from those who do. According to ICDDR,B, the most common reason for divorce is "maladjustment with husband/husband's family" (2015:32), and these tensions may also be a reason for respondents not living with their mothers-in-law, and for not visiting those with whom they do not reside. In addition, it is possible that women selectively live with mothers-in-law who are better-than-average alloparental caregivers, but this seems unlikely in Matlab where mothers-in-law sometimes rely on their daughters-in-law for their own care as they get older, and may be a net burden, rather than an alloparental support (Fraser Schoen 2014; see also Strassmann and Garrard 2011). It is perhaps more likely that a mother makes the effort to visit her own mother because she is likely to get more support from her, compared with a mother-in-law who may make more demands and provide less support (Feldman and McCarthy 1983; Fraser Schoen 2014). Despite the fact that patrilocal residence and purdah remain both normative and prevalent, young mothers make the effort to visit their own mothers; only 3 of 99 respondents who had living mothers residing elsewhere reported that they never visited them, whereas 8 of 26 reported they never visited their commensurate mothers-in-law (Fisher exact test,  $p = 0.001$ ).

Analyses in Perry (2017a) show that the respondents' mothers provide more childcare than one would expect on the basis of bari co-residence. Their mothers-in-law (the children's paternal grandmothers) also provide substantial alloparental care, but less than what would be expected on the basis of co-residence. Moreover, children whose primary alloparental caregiver was their maternal grandmother exhibited



significantly better height-for-age and educational attainment than those whose primary alloparental caregiver was either their paternal grandmother or someone other than a grandmother (Perry 2017b). These findings are in keeping with Strassmann and Garrard's concept of "covert matriliney" (2011:217), whereby relationships with maternal family remain important for domestic needs in patrilocal/patrilineal societies, even if matrilineal kin seldom co-reside. They are also in keeping with Meehan's (2005) observation that mother's relatives help with childcare when they are close at hand, whereas the father himself picks up more of the allomaternal care when the family lives near his relatives.

Although refusal to participate was not a problem in this study, non-availability for interview could have been a source of bias. For example, mothers in the divorced families were less likely to be found at home, and those who were interviewed might thus have been less often employed outside the home than those who were missed. Whether this is the case cannot be determined.

Why are maternal grandmothers such important alloparental caregivers? Evolutionists have advanced several complementary hypotheses. Chapais (2008) has argued that female solidarity within matrilineal societies is an ancient primate adaptation that has been overlaid, rather than fundamentally revised, by the occasional advent of pair bonds and paternal investment. The uncertainty of paternity is a fundamental reason why investment in progeny through daughters has been a more reliable avenue to fitness than through sons (Alexander 1974). Hawkes et al. (1998) proposed that the fitness benefit of investing in grandchildren was the evolutionary driver of women's long postmenopausal lifespan, with the ongoing consequence of grandmothers being frequent, effective primary alloparental caregivers. Moreover, investing in a daughter's children helps maintain the daughter's further reproductive capacity, in which the investing grandparent has a greater interest than in the future reproductive capacity of a daughter-in-law, especially if the latter can be replaced in the event of her death or divorce. Finally, Fox et al. (2010) suggested that the asymmetrical X-chromosome relatedness of maternal and paternal grandmothers to their grandsons versus granddaughters may have led to a complex pattern of differential investment in relation to both grandmother laterality and grandchild sex. These hypotheses are not mutually exclusive, and my research does not address their validity or relative importance directly, but it does provide another example of the skew toward greater maternal grandmother involvement. Mothers have an understanding of who is most committed to them and their children and therefore make great efforts to maintain these matrilineal relationships.

The results reported here show that strong mother-daughter relationships can endure even under patrilocality. Mothers in Matlab rely on their mothers at critical times. Respondents in open-ended interviews were unanimous in stating that women prefer to return to their own mother's home to give birth, for example, and to remain there for weeks or even several months after the child is born; all maintained that this is a common and long-standing practice (Perry 2017a). Visiting presumably helps maintain those ties. Other studies have shown that women are typically the ones who maintain family relationships, particularly through contact between mothers and daughters (Scelza and Bliege-Bird 2008; Spitze and Logan 1990; Uhlenberg and Hammill 1998), and the frequency of such contacts may be indicative of both investment in these relationships and one's confidence that natal family support will remain available (Danielsbacka et al. 2015; Gardner and Ahmed 2006; King and Elder 1995).

Should we be surprised by the extent to which women in rural Bangladesh maintain contact with their natal families and derive significant support from them? Not necessarily. Although patrilocal marriage and purdah clearly impede these contacts, researchers have documented apparently similar phenomena in several patrilocal societies. Judd (1989) has described the norms by which women in Shandong, China, continue to visit their natal families after marriage and engage in accepted reciprocal investments in each other's lives. Among the Kipsigis of Kenya, the presence of maternal uncles is associated with reduced child mortality in poor families, presumably because of investments by those uncles (Borgerhoff Mulder 2007). Among the Martu of Australia, Scelza and Bliege-Bird (2008) report that strong cooperative relationships between mothers and daughters persist in spite of patrilocality, and Scelza (2011) has noted that women return to their natal homes to give birth among the patrilocal Himba of Namibia, as do the women in Matlab. Gibson and Mace (2005) found that in the Oromo of southern Ethiopia, where patrilocality is normative (although poor mothers often lived matrilocally), maternal grandmothers visited their patrilocally living daughters, but paternal grandmothers did not visit their matrilocally living daughters-in-law. When maternal grandmothers visited, they supported their daughters by doing more heavy labor and had apparent positive effects on grandchild growth and survival. In contrast, paternal grandmothers visiting their daughters-in-law living patrilocally engaged in lighter labor and had less-beneficial effects.

One important implication of these results is that postmarital residence norms are imperfect indicators of contact with kin, and that co-residence may be a poor proxy for alloparental caregiving. The quote in the introduction of this paper (Cain et al. 1979:406–7) seems to be out of sync with the data presented here, which are more in keeping with Gardner and Ahmed's description of Bangladeshi family life: "Although women move to their husbands' households at marriage and in principle have duties first and foremost to their in-laws, in practice both men and women tend to remain in close contact with maternal kin and, in extremis, would also feel morally obliged to help them" (2006:20). But whereas Gardner and Ahmed imply that matrilineal family help only in particularly difficult circumstances, in the present study, higher rates of visiting matrilineal family persisted across all family types, even when controlling for income, and so did matrilineal family assistance (Perry 2017a). Claims that women are isolated from their natal families may reflect more of a cultural ideology than an accurate portrayal of behavior. Patrilocality matters, but women maintain strong relationships with their natal families if they can.

**Acknowledgments** I thank Peter Kim Streatfield and Tasleem Ali of the ICDDR,B for access to census data and for otherwise facilitating my research, and Ummehani Akter and Md. Sadiquzzaman for their work as Research Assistants. Financial support was provided by a Research Experience for Graduates award (NSF #1338748) from the National Science Foundation (sponsor Mary K. Shenk). Thanks to Martin Daly, Karthik Panchanathan, Mary Shenk, Craig Palmer, David Geary, and Kathrine Starkweather for discussion, comments, and support.

## References

- Alexander, R. D. (1974). The evolution of social behavior. *Annual Review of Ecology and Systematics*, 5, 325–383.
- Amin, S. (1998). Family structure and change in rural Bangladesh. *Population Studies*, 52, 201–213.

- Bhuiya, A., Chowdhury, M. R., Momen, M., & Khatun, M. (2005). Marital disruption: determinants and consequences on the lives of women in a rural area of Bangladesh. *Journal of Health and Population Nutrition*, 23, 82–94.
- Borgerhoff Mulder, M. (2007). Hamilton's rule and kin competition: the Kipsigis case. *Evolution and Human Behavior*, 28, 299–312.
- Cain, M. T., Rokeya Khanam, S., & Nahar, S. (1979). Class, patriarchy, and women's work in Bangladesh. *Population and Development Review*, 5, 405–438.
- Chapais, B. (2008). *Primeval kinship: How pair-bonding gave birth to human society*. Cambridge: Harvard University Press.
- Coall, D., & Hertwig, R. (2010). Grandparental investment: past, present, and future. *Behavioral and Brain Sciences*, 33, 1–19.
- Danielsbacka, M., Tanskanen, A. O., & Rotkirch, A. (2015). Impact of genetic relatedness and emotional closeness on intergenerational relations. *Journal of Marriage and Family*, 77, 889–907.
- Essock-Vitale, S. M., & McGuire, M. T. (1985). Women's lives viewed from an evolutionary perspective. II. Patterns of helping. *Ethology and Sociobiology*, 6, 155–173.
- Euler, H. A., & Michalski, R. L. (2008). Grandparental and extended kin relationships. In C. Salmon & T. K. Shackelford (Eds.), *Family relationships: An evolutionary perspective* (pp. 230–256). New York: Oxford University Press.
- Euler, H. A., & Weitzel, B. (1996). Discriminative grandparental solicitude as reproductive strategy. *Human Nature*, 7, 39–59.
- Feldman, S., & McCarthy, F. (1983). Purdah and changing patterns of social control among rural women in Bangladesh. *Journal of Marriage and the Family*, 45, 949–959.
- Fox, M., Sear, R., Beise, J., Ragsdale, J., Voland, E., & Knapp, L. (2010). Grandma plays favourites: X-chromosome relatedness and sex-specific child mortality. *Proceedings of the Royal Society B: Biological Sciences*, 277, 567–573.
- Fraser Schoen, R. (2014). *The social complexity of woman and child valuation in rural Bangladesh*. PhD Dissertation, University of Missouri, Columbia.
- Gardner, K. and Ahmed, Z. (2006). Place, social protection and migration in Bangladesh: a Londoni village in Biswanath. Issued by the *Development Research Centre on Migration, Globalisation and Poverty*. Working paper T18. Dhaka: Jahangirnagar University. <http://www.migrationdrc.org/>.
- Gaulin, S. J. C., McBurney, D. H., & Brakeman-Wartell, S. L. (1997). Matrilateral biases in the investment of aunts and uncles: a consequence and measure of paternity uncertainty. *Human Nature*, 8, 139–151.
- Gibson, M. A., & Mace, R. (2005). Helpful grandmothers in rural Ethiopia: a study of the effect of kin on child survival and growth. *Evolution and Human Behavior*, 26, 469–482.
- Harris, M. S. (2001). Bangladesh. In C. R. Ember & M. Ember (Eds.), *Countries and their cultures* (Vol. 1, pp. 167–181). New York: Macmillan Reference.
- Hawkes, K., O'Connell, J. F., & Blurton Jones, N. G. (1989). Hardworking Hadza grandmothers. In V. Standen & R. A. Foley (Eds.), *Comparative socioecology: The behavioural ecology of humans and other mammals* (pp. 341–366). London: Basil Blackwell.
- Hawkes, K., O'Connell, J. F., Blurton Jones, N. G., Alvarez, H., & Charnov, E. L. (1998). Grandmothering, menopause, and the evolution of human life histories. *Proceedings of the National Academy of Sciences*, 95, 1336–1339.
- Hrdy, S. (2009). *Mothers and others*. Cambridge: Harvard University Press.
- International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) (2015). Health and Demographic Surveillance System—Matlab, v. 47. *Registration of health and demographic events 2013*. Scientific Report No. 126. Dhaka.
- Johnson, D., Smeeding, T., & Boyley Torrey, B. (2005). Economic inequality through the prisms of income and consumption. *Monthly Labour Review*, April, 11–24.
- Judd, E. (1989). *Niangia*: Chinese women and their natal families. *Journal of Asian Studies*, 48, 525–544.
- Kenner, C., Al-Azami, S., Gregory, E., & Ruby, M. (2008). Bilingual poetry: expanding the cognitive and cultural dimensions of children's learning. *Literacy*, 42, 92–100.
- King, V., & Elder Jr., G. H. (1995). American children view their grandparents: linked lives across three rural generations. *Journal of Marriage and the Family*, 57, 165–178.
- Konner, M. (2010). *The evolution of childhood: Relationships, emotion, mind*. Cambridge: The Belknap Press of Harvard University Press.
- Lawton, L., Silverstein, M., & Bengtson, V. (1994). Affection, social contact, and geographic distance between adult children and their parents. *Journal of Marriage and the Family*, 56, 57–68.
- Leonetti, D. L., Nath, D. C., Hemam, N. S., & Neill, D. B. (2005). Kinship organization and the impact of grandmothers on reproductive success among the matrilineal Khasi and patrilineal Bengali of Northeast

- India. In E. Voland, A. Chasiotis, & W. Schiefenhövel (Eds.), *Grandmotherhood: The evolutionary significance of the female life*. New Brunswick: Rutgers University Press.
- McBurney, D. H., Simon, J., Gaulin, S. J. C., & Geliebter, A. (2002). Matrilateral biases in the investment of aunts and uncles. *Human Nature*, *13*, 391–403.
- Meehan, C. L. (2005). The effects of residential locality on parental and alloparental investment among the Aka foragers of the Central African Republic. *Human Nature*, *16*, 58–80.
- Perry, G. (2017a). Alloparental care and assistance in a patrilocal society. *Current Anthropology*, *58*, doi:10.1086/690021.
- Perry, G. (2017b). Matrilateral investment in children and its consequences after parental death or divorce in rural Bangladesh. (Ms. in review)
- Perry, G., Daly, M., & Macfarlan, S. (2014). Maternal foster families provide more stable placements than paternal families. *Children & Youth Services Review*, *46*, 155–159.
- Pollet, T. V., Nettle, D., & Nelissen, M. (2006). Contact frequencies between grandparents and grandchildren in a modern society: estimates of the impact of paternity certainty. *Journal of Cultural and Evolutionary Psychology*, *4*, 203–213.
- Pollet, T. V., Nettle, D., & Nelissen, M. (2007). Maternal grandmothers do go the extra mile: factoring distance and lineage into differential contact with grandchildren. *Evolutionary Psychology*, *5*, 832–843.
- Pollet, T. V., Nelissen, M., & Nettle, D. (2009). Lineage based differences in grandparental investment: evidence from a large British cohort study. *Journal of Biosocial Science*, *41*, 355–379.
- Pollet, T. V., Roberts, S. G. B., & Dunbar, R. I. M. (2013). Going the extra mile: individuals travel further to maintain face-to-face contact with highly related kin than with less related kin. *PLoS One*, *8*, e53929.
- Rahman, M. O. (1997). The effect of spouses on the mortality of older people in rural Bangladesh. *Health Transition Review*, *7*, 1–12.
- Rao, N. (2012). Breadwinners and homemakers: migration and changing conjugal expectations in rural Bangladesh. *Journal of Development Studies*, *48*, 26–40.
- Scelza, B. (2011). Female mobility and post marital kin access in a patrilocal society. *Human Nature*, *22*, 377–393.
- Scelza, B., & Bliege-Bird, R. (2008). Group structure and female cooperative networks in Australia's Western Desert. *Human Nature*, *19*, 231–248.
- Sear, R., & Mace, R. (2008). Who keeps children alive? A review of the effects of kin on child survival. *Evolution and Human Behavior*, *29*, 1–18.
- Shenk, M. K., Starkweather, K., Kress, H. C., & Alam, N. (2013). Does absence matter? A comparison of three types of father absence in rural Bangladesh. *Human Nature*, *24*, 76–110.
- Smith, M. S. (1988). Research in developmental sociobiology: parenting and family behavior. In K. MacDonald (Ed.), *Sociobiological perspectives on human development* (pp. 271–292). New York: Springer.
- Spitze, G., & Logan, J. (1990). Sons, daughters and intergenerational social support. *Journal of Marriage and the Family*, *52*, 420–431.
- Strassmann, B. I., & Garrard, W. M. (2011). Alternatives to the grandmother hypothesis: a meta-analysis of the association between grandparental and grandchild survival in patrilineal populations. *Human Nature*, *22*, 201–222.
- Tanskanen, A. O., & Danielsbacka, M. (2012). Beneficial effects of grandparental involvement vary by lineage in the UK. *Personality and Individual Differences*, *53*, 985–988.
- Uhlenberg, P., & Hammill, B. (1998). Frequency of grandparent contact with grandchild sets: six factors that make a difference. *The Gerontologist*, *38*, 276–285.

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