The Family Outside the Home: Understanding Extra-Residential Kinship Networks in a Rural West African Setting

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BACKGROUND

In the African context, the extended family is the most important unit of social organization (Radcliffe-Brown and Forde, 2015). Ethnographic studies show that kin have a critical role in giving identity to children, sharing parenting responsibilities, and providing support to children and families (Riesman, 1992; Nsamenang, 1992; Serpell, 1993). Biological parents' choice to send children to live with other kin as a way to access educational opportunities, provide domestic labour, and become better integrated into larger kin structures, is one of the main factors contributing to the high rates of child fosterage found across the continent, particularly in West Africa (Isiugo- Abanihe, 1985; Bledsoe et al., 1988; Verhoef and Morelli, 2007).

Although this vast body of anthropological research predicts how family arrangements should look based on cultural templates of kinship relationships, they are rarely measured in censuses and demographic surveys, which rely on the co-residential household as the primary unit of enumeration (van de Walle, 2006). As a result, our understanding of the characteristics of extra-residential family ties at the population level, and their role vis-à-vis other social networks for demographic behavior, remain limited.

In this paper, we take advantage of a unique linked dataset to map the structure and characteristics of extra-residential family networks in a rural West African setting. By doing so,

we make both a methodological and substantive contribution to the existing literature. On the one hand, we can answer the question: how many close family members do not live under the same roof? This is critical to evaluate the potential bias of existing censuses and surveys, which enumerate households according to the dwelling criteria. On the other hand, we can assess what are characteristics of ties that link family members within and outside the households, and compare them to other types of social network ties. Since networks have been demonstrated to be a key determinant of demographic behaviors, to disentangle the web of individuals' relationships outside the home will foster a better understanding of social network processes in population science.

METHODOLOGY

Data source and study setting. The proposed project will use data from the Niakhar Social Networks and Health Project (NSNHP). The NSNHP is a large-scale, longitudinal social network project with multiple qualitative, survey, and methodological components (Sandberg et al., 2017)[1], which is conducted in collaboration with the Niakhar Demographic and Health Surveillance System (NDHSS) maintained by the *Institut de Recherche pour le Développement* in the Fatick region of Senegal since 1962 (Delaunay et al, 2013). Located 150 km east of Dakar, the population in the NSNHP study area is 96.7% ethnically Sereer, and the dominant religion is Islam. Economic production and consumption is organized at the household level. Residence is structured in kin-based enclosed residential compounds known as concessions, which can contain one to over a dozen nuclear households.[2] Despite a long-term trend of decline, both fertility and mortality remain high in the area: the total fertility rate was estimated at 6.4 births per woman in 2009–2011, mortality under age 5 at 76.2 per 1000 births, and the life expectancy of men and women at, respectively, 68.2 and 69.1 years (Delaunay et al, 2013).

Social interaction in the study area is complex and crucial to survival. Since the zone has neither

[1] The Pilot Survey of the NSNHP, fielded in 2007, was funded by SSHRC, grant RDI 820-2006-3. The 2014 and 2016 waves of the NSNHP were funded by the US-based National Institute of General Medical Sciences, grant R01-GM096999. For a full description of the project components, see the project's website: www.nsnhp.org.
[2] The average per compound is 1.7 households and 20 individuals (Delaunay et al., 2017).

a strong welfare state nor a formal financial sector, other individuals with whom one has relations are for most the only source of social and economic support. For this reason, reputation and maintenance of alliances is a principle concern and topic of discussion. People in the study area live in what Hammel (1991) termed a 'constant cloud of evaluative commentary': the most prominent character of closest ties discussed in the qualitative fieldwork for the NSNHP was the ability of an alter to guard confidential information, or 'secrets'. The importance of interaction and social ties are well understood by the people of the zone, who consistently cited the need to cultivate and maintain a reliable network of others who could be used for such support.

Kinship forms the foundation of both the household and the system of mutual exchange through social interaction. Kinship in the zone is bilateral, but inheritance of non-consumable goods is through the matriline, which in the NSNHP qualitative work was almost universally discussed as the primary descent group. In combination with virilocal post-marital residence this serves to create a heterogeneous kinship base within compounds (Dupire et al. 1974). Residents interviewed in the qualitative phase of the NSNHP were quite aware of the need to cultivate and maintain extra-household relationships of patronage and support.

In 2014, of the total NDHSS population of 43,664, the NSNHP interviewed all residents of the village of Yandé city, that is, 1310 respondents age 16+ (609 men and 693 women). The retention rate in the population sample between the first and second panels was 89% of respondents continuously resident in the zone, a sample that was supplemented with a "refresher" of 251 individuals in 2016 to maintain population representativeness.

Kinship and social networks data in the NSNHP. As part of the NSNHP network questionnaire, however, respondents are also asked to identify kin within their social networks but who live outside their residential compound, their village, in another village in the study zone, in Dakar, elsewhere in Senegal, or abroad. Respondents indicate whether these consanguine relationships are maternal, paternal, or both. Finally, for all network alters, the respondents report on the specific type of relationship (specific kin relation, friend, neighbor, etc.) and on the frequency, strength, and closeness of the interaction between themselves and their network alters (kin and non-kin).

Linkage of survey and surveillance data. The sociocentric design of the NSNHP implies that respondents are not asked about the characteristics of their network alters. Rather, since all NSNHP respondents are also included in the surveillance system, one can extract the characteristics of their network alters (kin and non-kin) from the NDHSS, which dates back to 1962. We have thus linked data from the two waves of the NSNHP with the NDHSS data (including historical information) to properly identify all network partners and their characteristics.

Analytic approach. The fundamental innovation of the NSNHP is to have administered a social network survey to a population that has been, for the last 50 years, and under continuous demographic surveillance, which allows linking respondents and members of their social networks to this pre-existing, prospectively collected data. This new methodology leads to the collection of information on larger and more comprehensive social networks (across more types of ties, with uncensored, 'free-choice' citation of network alters) than has previously been possible. Where prior research has relied on respondents' claims of alters' characteristics for a limited number of ties, the surveillance system contains rich, prospectively collected longitudinal data on a wide variety of demographic and social phenomena for *all members of the population*.
Analyzing this mass of information requires appropriate statistical techniques. First, we carried out a visual inspection of the network data from the NSNHP by using "sociograms" where individuals are represented by dots, and their ties to kin and other alters are represented by lines connecting the dots (Moreno, 1934). Second, we analyzed measures of network density for kin vis-à-vis non-kin networks. Third, we analyzes the individual characteristics of the respondent and their family members that are associated with differential density across kin and non-kin networks.

PRELIMINARY RESULTS

Inspection of the NSNHP data for the first survey wave (2014) produces the sociogram presented in the figure below, where extra-residential kinship ties are the blue lines and the yellow lines connect respondents not related by kin. At first glance, kin networks seem less "dense" (fewer

lines) than other networks. There are then three questions we want to answer. First, is it the case? Second, are the characteristics of alters different in the two types of networks, and does that explain differential network density in the two cases?