

Spatial Variation of Age at Marriage in South Africa

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ABSTRACT Earlier studies in South Africa have shown that age at marriage has been rising gradually and that South Africa is characterized by late marriage as well as substantial numbers delaying marriage until into their 30s. Urbanization and educational development have been key factors associated with the increase in age at marriage. This paper examines inter-provincial differences in age at marriage in South Africa. The measure of the timing of family formation used in this analysis is Singulate Mean age at Marriage (SMAM). The SMAM values are computed by applying Hajnal's technique to data obtained from the 1996 and 2001 population censuses and the 2007 Community Survey for each sex for South Africa's nine provinces and four population groups. The usefulness of Geographical Information Systems (GIS) in the presentation of spatially distributed differentials is demonstrated. Results shows that there is considerable variation in marriage patterns between provinces and population groups with Kwazulu-Natal having the highest mean age at marriage whereas Gauteng has the lowest mean age at marriage. Furthermore, mean age at first marriage is very late among African and Coloured males and females (above 27 years), and a moderately high mean age at first marriage among Indians and whites (24-27 years). These variations could be due to the wide regional variations in economy, culture and living conditions.

INTRODUCTION

Marriage is an important institution for both individuals and society as a whole. It is a significant event in the life cycle of individuals; for society at large it represents the creation of a new unit of 'production, consumption, distribution and exchange of goods and services (Van de Walle 1968; Gaise 2000).

In most comparative studies of nuptiality, it has been usual to characterize sub-Saharan pattern of marriage as "early and universal" (Van de Walle 1968; Goldman and Pebley 1986; Garenne 2004). Early and virtually continuous marriage throughout a woman's reproductive years is maintained by several related marriage customs including polygamy, levirate marriage, and bride wealth or bride price (Van de Walle 1968; Goldman and Pebley 1986). However, late marriages as well as a substantial number of men and women who never marry characterize marriage patterns in Southern Africa including South Africa (Garenne 2004). Demographic studies of nuptiality have usually been concerned with its relationship to fertility. In traditional societies, fertility takes place within marriage. Some researchers have noted that the tendency to focus on the fertility implications of nuptiality patterns is responsible for

some weaknesses in the theoretical development of the field (Smith et al. 1983). Other researchers have argued that more attention should be paid to male nuptiality patterns and the connections between male and female nuptiality (Preston and Strong 1986).

This paper focuses on patterns and trends in age at marriage in South Africa. It documents the trend of continued rising of age at first marriage for both sexes using the 1996 and 2001 population censuses and 2007 Community Survey. In order to shed light on the correlates of spatial variation in age at marriage in South Africa social and economic factors such as urbanization, industrialization are related to the observed age patterns of marriage. In addition, GIS technology integrates the statistical analyses with the unique visualization and geographical analysis offered by maps. Geographical Information System (GIS) is a computer system, capable of assembling, storing, manipulating and displaying geographically referenced information i.e. data identified according to their location (Longely et al. 1999). GIS provides an excellent means of analyzing demographic data, revealing trends, dependencies and interrelationship that would be more difficult to discover in tabular format (Skinner et al. 2000). Moreover, it allows the policy makers to easily visualize the problems in

relation to the resources and more efficiently target resources to those communities in needs.

METHODOLOGY

The study is based on the analysis of the 1996 and 2001 population censuses and the 2007 Community Survey (Statistics South Africa 1999, 2003, 2008). These data sources collected information on current marital status by age and sex. One of the questions that was asked during the survey was “what is your marital status” and each respondent was supposed to choose from the following: married civil/religious, married (traditional/customary), polygamous marriage, living together like married partners, never married, widower/widow, separated and divorced.

The measure of the timing of family formation used in this analysis is Singulate Mean age at Marriage (SMAM). SMAM is calculated from proportion never married by age and refers to the mean number of years spent in the single (never married) state by those in the hypothetical cohort who marry by age 50 (Hajnal 1953). The SMAM values are computed by applying Hajnal’s technique to data obtained from the 1996 and 2001 population censuses and the 2007 Community Survey for each sex for South Africa’s nine provinces and four population groups – African, Coloured, Asian and Whites.

SMAM is one of the most common indicators of timing of marriage typically calculated from a census or survey for a given year. The SMAM measures the average number of years a woman would live as “never married”, if she has the same age specific “risks” of marriage as the population at large. Women that never married before their 50-year birthday are typically excluded. The calculation uses the proportion women that are “never married” in each age group. The measure assumes that no one marries for the first time before the age of 15 and after their 50-year birthday. Other important properties of this measure are that it is age-standardized so it is not affected by the age structure of the population; it is not affected by remarriages. If the marriage pattern is changing over time, then it can differ significantly from cohort measures; it is affected by marriage- or age-specific migration. For example, an influx of unmarried 30 year-olds will increase the SMAM and it is affected by marriage- or age-specific mortality. For example, if unmarried have a much higher mortality than married this will decrease the SMAM.

In addition, in trying to account for the spatial variation of age at marriage in South Africa, correlation analyses are used. The choice of explanatory variables was constrained by the availability of data. The data for this study are primarily from the 1996 and 2001 population censuses and 2007 community survey. The independent variables described below are therefore not necessarily the most suitable ones in explaining the spatial variation of age at marriage in South Africa.

Geographical information system (GIS) is a powerful visual tool that allows the application of mapping and the spatial analysis of clusters or clustering. In this study, GIS was used to document the spatial variations of age at marriage in order to highlight areas having high or low age at marriage. For the present study, the GIS ArcMap package has been used for mapping purpose. The resource for this study was shapefiles that were downloaded from the internet (Map IT 2009). This dataset contains provincial boundaries, place names for each province and its latitude and longitude. The downloaded data were brought into GIS ArcMap and merged with SMAM analyses data into one database using common codes for mapping and visualization. The provincial level data of South Africa has been divided into three categories (high, medium and low) for each variable indicators using natural break method of choropleth technique (graduated color maps) from ArcGIS 9.3 (Galati 2006).

RESULTS AND DISCUSSION

Table 1 shows SMAM for South Africa, provinces and population groups for 1996 and 2001 censuses and 2007 Community Survey. Table 1 indicate that SMAM for South African males was 31.0 years in 1996 remaining unchanged in 2001 and increasing slightly to 32.5 years in 2007. Similar values for South African females are 28 years in 1996 and remaining unchanged in 2001 and increasing to 29.6 years in 2007.

In South Africa, the legal age for individuals to marry (enter into marriage or civil union) is 18 years (Republic of South Africa 1998, 2006). However, Table 1 indicates that most girls marry between 25 and 30 years of age and men between 27 and 33 years of age. This means that marriage does not take place at very early ages (say ages below 20 years), as it is the case with traditional societies.

Table 1: Singulate mean age at marriage for population group and provinces 1996, 2001 and 2007

Particulars	Male			Female		
	1996	2001	2007	1996	2001	2007
<i>Province</i>						
Eastern Cape	32.9	32.1	33.8	29.1	28.2	30.2
Free State	28.6	29.2	31.0	26.8	26.7	28.3
Gauteng	30.1	29.8	31.5	27.7	26.3	27.6
KwaZulu-Natal	33.0	32.0	34.7	31.0	29.7	32.2
Mpumalanga	31.0	30.4	32.6	28.8	27.2	29.5
Northern Cape	30.3	30.8	32.8	28.6	27.8	30.1
Limpopo	30.7	29.7	33.1	27.4	27.3	29.9
North West	31.7	31.3	32.7	29.5	28.4	30.2
Western Cape	29.5	29.3	30.7	27.9	27.0	29.0
<i>Population Group</i>						
African	32.0	31.2	33.4	29.6	28.1	30.2
Coloured	28.9	28.7	30.7	27.9	27.0	28.7
Asian	26.9	27.3	29.0	23.9	24.5	25.5
White	27.0	27.2	28.8	24.6	24.8	25.9
<i>Country</i>						
South Africa	31.0	30.5	32.53	28.7	27.7	29.62

The spatial variations in age at marriage in South Africa are depicted in Figures 1, 2 and 3. In general, visual inspections of the maps indicate that on average South African men marry around age 30 whereas women marry around age 28. These are very high mean ages at first marriage by any standard. Commenting on median age at first marriage, Udjo (2002) observed that the SMAM values for 1996 “give the impression that South Africa has about the highest mean age at first marriage in the world”. However, it should be pointed out that SMAM values for South Africa compare favourable with those of neighboring countries. For instance, Rakgoasi and Gaise (1999) found out that SMAM for Botswana in 1991 was 28 years for females and 30.8 years for males. Shemeikka et al. (2005) reported that the mean age at first marriage for females in Namibia in 1990s was around 30 years while for males was around 34 years. Garenne (2004) noted, “late marriage (above age 25) seems to be a common feature of modern societies as well as some atypical Southern African societies (South Africa, Namibia, Botswana).”

There are spatial variations in SMAM by province and population groups. For the male population, Figures 1, 2 and 3 suggest that Kwazulu-Natal and Eastern Cape are high age at marriage provinces whereas Western Cape and Gauteng have relatively low age at marriage. For the women, all the three data sets suggest that Kwazulu-Natal is a high age at marriage province whereas Western Cape, Gauteng and Free State have low age at marriage.

The rest of the provinces could be said to have moderate age at marriage. There are some exceptions to the generalizations mentioned above. For instance, in 1996, the male population in the North West province has a high age at marriage and in 2007; the female population in Limpopo have a moderate age at marriage. In general, the highest age at marriage to the lowest in the provinces can be ranked as follows: Kwazulu-Natal, Eastern Cape, North West, Mpumalanga, Northern Cape, Limpopo, Free State, Western Cape and Gauteng. However, one should be cautious in interpreting the observed provincial differentials. As Udjo (2004) pointed out, the observed differences by province “may partly be a reflection of varying degrees of inaccuracies in the interpretation of the marital status question in these provinces during the census”.

Furthermore, Table 1 data indicate that mean age at first marriage is very late among African and Coloured males and females (above 27 years), and a moderately high mean age at first marriage among Indians and whites (24-27 years). Since Africans constitute over three quarters of the population and the observed mean age at first marriage among Africans is very high, the national average is high (31 years for males and 28.7 years for females). In addition, the observed mean ages at first marriage suggest that on average among Africans, Asians and Whites, males tend to be 2-3 years older than their spouses while among Coloureds, the difference in age at first marriage among spouses tends to be 1 year on average. Overall, compared to other African countries the difference in mean age at first marriages between spouses is minimal in South Africa. Among other things, this is a good trend as it may influence better communication between spouses, which in turn may lead to more stable marriages. Indeed, as Amoateng (2004) noted, “even though South African women may be relatively slower to marry, once they tie the knot they tend to be committed to the institution of marriage”. Amoateng (2004) further noted that in South Africa, marriage is much more likely to be dissolved through death than through divorce.

The pattern described above regarding differentials in age at marriage is different from the picture presented by other researchers for early 1990s. For instance, Chimere-Dan (1995) observed that “whites marry latest at an average age of 20.9 while Africans marry youngest at an average age of 18.9 years”. Accepting these estimates leads one to conclude that age at first marriage is increasing for all the population groups in the country with

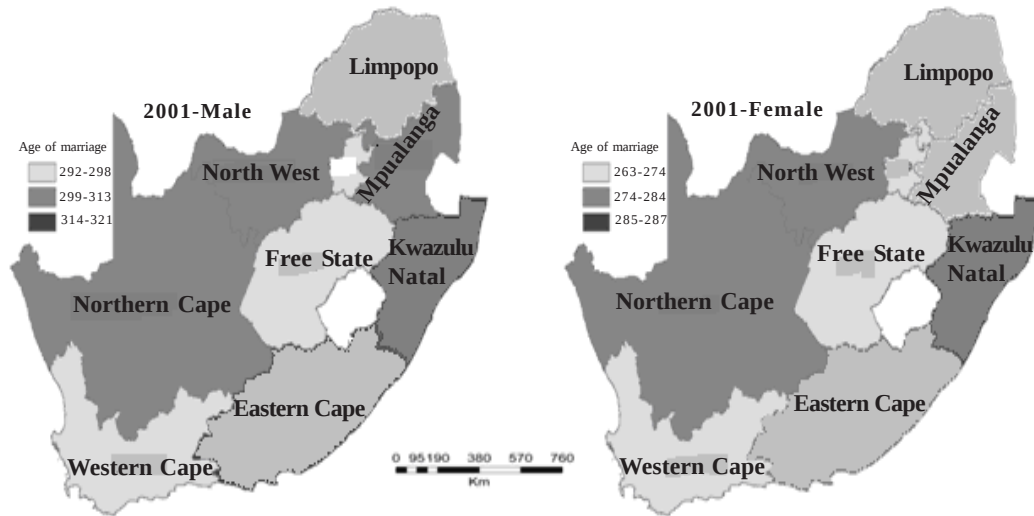


Fig. 1. Age at marriage by province, South Africa 2007

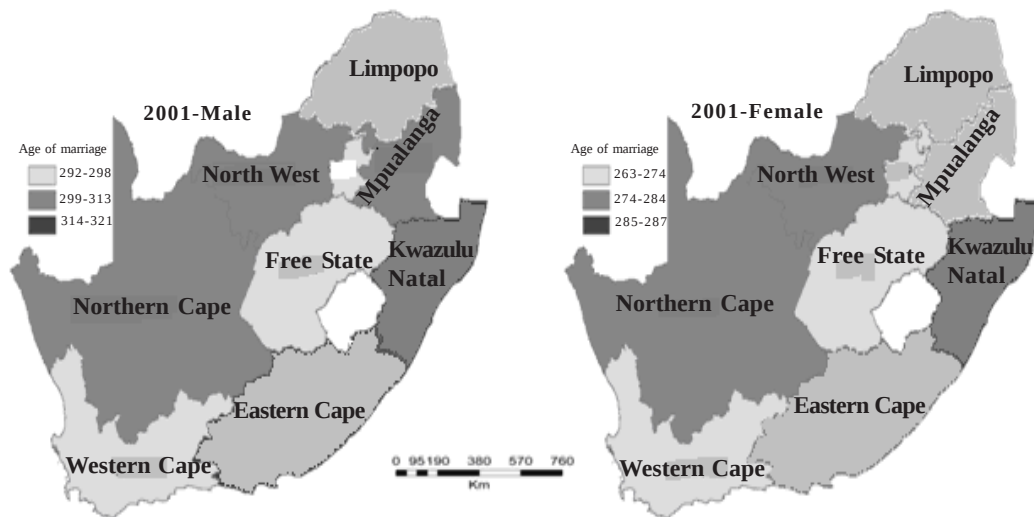


Fig. 2. Age at marriage by province, South Africa 2001

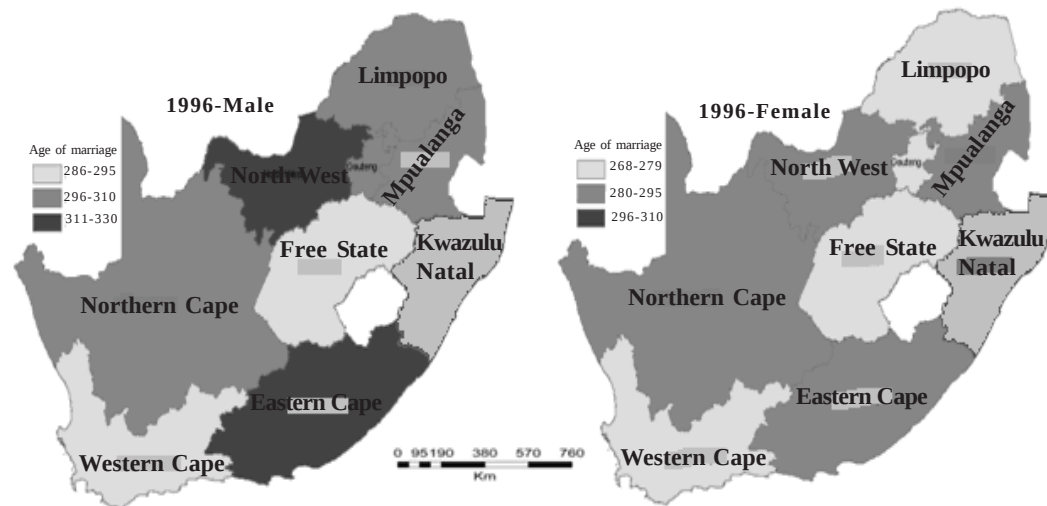


Fig. 3. Age at marriage by province, South Africa 1996

Africans and coloureds having the largest increase and whites and Asians the smallest increase. The factors responsible for such observed patterns remains to be established.

The estimated SMAM for South Africa have important demographic consequences. Women who marry late will have on average shorter exposure to the chance of becoming pregnant implying late age at childbearing and lower fertility for a society. Hence, the low fertility found in South Africa is partly due to late entry into marriages. However, the cases of early motherhood are found abundantly. The phenomenon of early motherhood has been causing fatal impact on the health of both mother and infant causing higher infant and maternal mortality.

Another aspect observed in Table 1 is that the difference between male and female mean age at marriage is about 2-3 years, which is considered small by African standards. The demographic consequences of this are many and include better spouse communication and more stable relationships. It can be argued that since the age differentials of the partners is small couples are able to discuss such issues as contraceptive use and the number of children they should have. In addition, because South African men and women marry when they are relatively mature they tend to be committed to marriage. On this aspect, Amoateng (2004) observed, "even though South African women may be relatively slower to marry, once they tie the knot they tend to be committed to the institution of marriage", as earlier stated.

Correlates of Age at Marriage in South Africa

In the previous section, spatial variations in age at first marriage at provincial level have been described. In this section, some plausible explanations for the observed variations in age at first marriage that may help predict the future trend of marriage are provided. It can be argued that the spatial variations in the age at first marriage as described in the preceding paragraphs is a result of the prevailing values, attitudes and norms of marriage. These values and norms were brought about by colonization, westernization, modernization and social and economic development. The mechanisms through which the latter brought about changes in the former remain to be fully established. It suffices to note that with the significant socio-economic development, establishment of market economy, more young men and women are affected by the Western culture and modern life style. Particularly, in the urban, self-fulfillment orientation and increasingly severe competition of careers impel more young people to postpone marriage. Large volume of out-migrants of young people from the backward rural areas; searching jobs in the developed coastal and urban areas; escaping from the control by their conservative parents and observing the new life style of their urban counterparts, very likely suspend the marriages till they become stable in the destination if they stay, or come back to their original villages. With these changes in mind, three possible explanations are suggested.

First, the observed spatial variation in age at marriage in South Africa could be related to imbalanced sex ratios. Sex ratios refer to the number of males per 100 females and are calculated by dividing the male population by the female population and multiplying by 100. In this study, sex ratios were calculated for the total population (that is overall sex ratio) and for the population in the marriageable age groups. In the case of the latter, the male population aged 20-54 was divided by the female population aged 15-49. The results of these calculations are presented in Table 2. In a situation whereby there is a shortage of males especially at prime marrying age there will be a shortage of men in the marriage market thereby forcing women to marry at a later stage or to remain celibate. The opposite is also true. The shortage of males could come about because of labour migration. As a result of this, one would expect areas experiencing net-out-migration of males to have a higher age at marriage than those areas experiencing net-in-migration.

Second, the observed spatial variations in age at marriage could be attributed to ever-present consequences of westernization, colonization and apartheid. Available evidence suggests that colonization and apartheid affected many facets of life including education, labour participation and migration patterns (Gaise 2000). Christianity, western education, trade and labour migration transformed the traditional marriage system. Manufactured goods, taxation and labour migration made serious inroads into the social and

economic life of the family. The teachings of the new form of religion also dented the traditional family life. The social cohesion of the family was dismantled by labour migration, the long absence of the man or husband from home resulted in the women having greater personal freedom as well as increased domestic responsibility (Gaise 2000). In some cases labour migration lead to desertion which is a complete breakdown of marriage. These changes were further reinforced by apartheid laws that among other things did not recognize African marriage systems and prohibited Africans from residing in certain areas, in particular urban areas designated for the white population.

Table 2: Overall sex ratio and sex ratio in marriageable age groups for South Africa and its provinces, 1996, 2001 and 2006

South provinces	Overall sex ratio			Sex ratio in the Africa & marriageable age groups		
	1996	2001	2006	1996	2001	2006
Eastern Cape	85.7	86.0	89.1	63.6	65.1	71.7
Free State	97.2	92.1	93.8	88.8	79.4	86.3
Gauteng	104.3	101.2	98.8	103.7	99.0	96.6
KwaZulu-Natal	88.4	87.9	90.5	72.5	71.7	77.7
Limpopo	84.2	83.2	85.8	59.9	59.2	66.4
Mpumalanga	94.7	92.1	94.4	81.1	76.5	82.3
North West	96.8	98.6	101.2	86.0	89.9	97.8
Northern Cape	96.5	95.2	96.4	84.6	85.1	89.0
Western Cape	95.8	94.0	95.1	87.5	85.0	89.2
South Africa	92.7	91.7	93.3	80.4	79.1	83.8

Source: Calculated by authors.

Sex ratio marriageable age-1996



Fig. 4. Sex ratio variations in South African provinces – 1996

Third, linked to the process of marriage in most South African societies is the payment of Lobola (bride price). Lobola is the payment of a prize to the parents of the bride before marriage is sanctioned. In years gone by, this used to be in the form of cattle, but in most cases today, this payment may be in a form of cash. The payment of cash may be over years, and the couple may not regard themselves as fully married before the full payment, even if they already stay together. Whereas Lobola used to be a standardized token given by the husband to the family of the prospective wife, it has been commercialized and linked to education status of the prospective wife. This has resulted in high cost of getting married that many poor folks cannot afford.

The spatial variations in age at marriage in South Africa appear to be related to the distribution of population groups in the country (Fig. 4). For historical reasons, with the exception of the African

population, the racial groups tend to cluster in specific provinces. The Western Cape and Northern Cape have a high proportion of the Coloured population. Most South African Indians are in KwaZulu-Natal and most whites are in Gauteng, with a substantial number in the Western Cape. The three provinces where Africans constitute less than 70% of the population are Gauteng (62.7%), Northern Cape (31%) and Western Cape (17%). It should be noted that SMAM is lower in provinces that have a high concentration of the White and Coloured populations and highest in provinces with the high concentration of the African and Asian populations.

Results of Correlation Analyses

A preliminary spatial analysis was conducted by mapping the dependent and all the independent variables. Figure 1-3 shows the geographic pattern of age at marriage in 1996, 2001 and 2007. These maps appear to have a strong visual correlation with most of the maps of the demographic and socioeconomic variables (not shown in this paper). In order to describe the precise statistical relationship between age at marriage and the socioeconomic variables, correlation analyses are employed.

Table 3 presents the results of simple correlation analysis and their probability values (the level of significance) showing the statistical relationship between each of the demographic and socio-economic (independent) variables with the dependent variables (age at marriage).

Table 3: Correlation analyses of singulated mean age at marriage and social and demographic variable for provinces in South Africa, 1996 and 2001

Variables	1996		2001	
	Male	Female	Male	Female
Sex ratio	-0.507	-0.490	-0.222	-0.371
Education	0.421	0.184	0.528	0.417
% Urban	-0.560	-0.289	-0.683	-0.547
% Density	-0.082	-0.109	-0.138	-0.362
% African	0.345	0.422	0.537	0.285
% Colored	-0.282	-0.407	-0.498	-0.247
% Asian	0.488	0.681	0.415	0.621
% White	-0.601	-0.577	-0.664	-0.606
Migration Rate (male)	-0.217	-0.045	-0.180	-0.208
Migration Rate (female)	-0.596	-0.286	-0.292	-0.318

The simple correlation results clearly indicate that there is a relationship between most of the demographic and socio-economic variables and age

at marriage in both 1996 and 2001 at the province level. Singulate mean age at marriage for females is negatively related to sex ratio, net migration rate, percentage urban, population density, and is positively related to percentage of population above 20 years with no schooling. The correlation coefficients confirm the visual inspection of the mapped independent variables.

CONCLUSION

To improve the quality of life of any society, it is essential to raise the status of its less privileged members. One area where women, who constitute more than half of the population, have been subjected to low status is through early marriages. Furthermore, one of the MDGs' eight goals focuses on promoting gender equality and empowering women by encouraging late marriages and increasing life opportunities. In this paper, an integrated approach that employs different data sources, GIS technologies and demographic analyses was used to study spatial distribution of age at marriage in South Africa. Very few studies have used GIS to understand spatial variations in demographic variables in South Africa. It is our view that this approach can readily be adapted to other demographic research. In particular, it was possible to visually compare key features of reproductive behaviour in South Africa which vary systematically through space and time.

Although some findings of this research reaffirms the already known hypothesis of age at marriage in Southern Africa, we present the possibility of using GIS and spatial statistical tools for population research in this study area where GIS application in the demographic and population sector has not been extensively utilized. These spatial analyses improve our understanding of how location affects population dynamics, leading to interventions that are more effective.

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