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Seasonality of Marriages and Ecological Contexts in Rural Communities of Central-Southern Italy (Abruzzo), 1500–1871

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ABSTRACT

The seasonality of 27,705 marriages celebrated in a four century span in the Province of Teramo (Abruzzo, Italy) was analyzed to identify the presence of a long-term pattern related to the prevailing subsistence activity and the main factors affecting it. The results show general agreement in all centuries with the agricultural patterns of other lowland or south-central Italian groups (Piedmont, Veneto, Liguria, Emilia Romagna, Tuscany, Latium, Campania, Apulia) and Mediterranean regions (Spain, France), although with some differences. Religious factors strongly affected the timing of marriage only during Lent. Of interest is the progressive increase through the centuries of marriages in the summer-autumn months, associated with a decrease in January and February. This suggests the passage from a summer migration system to a rural sedentary system with occasional seasonal work.

Introduction

The study of human populations is of common interest to researchers in different fields: historians, demographers, anthropologists, human ecologists, geneticists and epidemiologists^{1–5}. Although their approaches and methods differ, there are often many overlapping objectives, the first being interpretation of the rela-

tionship between the population and its environment^{5,6}. Environmental features and characteristics are the primary source of constraint on the development of each human group^{6,7}. Therefore, in the case of human ecology, the study of isolated communities is aimed at the understanding of biological microdifferentiation of human populations; it is usefully

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combined with an historical reconstruction of the processes of adaptation developed in time by the communities⁸. The adaptability process is the final result of both biological and cultural responses of the community in time and is primarily reflected in the subsistence strategies developed by each group. Indeed, subsistence strategies are the final result of a complex equilibrium among internal biological needs, demographic characteristics and cultural habits of the population, available and exploitable resources, and the abiotic environment^{9,10}. Each community develops its own adaptability response within the general features of known subsistence patterns, such as those typical to agriculture, pastoralism, mixed agriculture-pastoralism, agriculture-fishing, sedentarism, nomadism, semi-nomadism, etc., which are the result of long-lasting processes.

Among the many biocultural indicators of long-term isolation, the analysis of patterns of marital structure and their evolution in time is of particular interest, since marital choices are the basis of a community's reproductive success. The trend in time of biocultural parameters, namely endogamy, rates and coefficients of inbreeding, and surname analysis, provides information about the degree of isolation and allows a better understanding of the biological and genetic structure of human populations^{11–13}. It is thus a valid tool for evaluation of the general fitness and geographical microdifferentiation of »traditional« human communities in relation to their environment^{14–16}.

Furthermore, for improved knowledge of the biocultural mechanisms that regulate the choice of a mate, it is important to consider seasonality of marriages, since the time of the wedding is strictly influenced by cultural habits, demographic characteristics, socio-economic conditions and environmental factors. Hence

it is a good indicator of the adaptation process, since it reflects:

- the geographical location and climatic factors, which are responsible for isolation and fluctuations of weddings during the year^{8,17,18};
- the size of the group, which plays a role in endogamy and inbreeding levels^{19,20};
- work activities (agricultural, herding, handicraft, seasonal and definitive migrations) influencing the time of marriage^{8,18,21,22};
- religious factors: in Catholic countries, marriages are discouraged during Lent, Advent and on other special days of the year^{18,23–25};
- political frontiers, which can create obstacles to marriages despite geographical unity²⁶.

The present study investigates the seasonality of marriages in a four-century span in the town of Teramo and nine villages in the Province of Teramo (Abruzzo Region) (Figure 1). Abruzzo was part of the Kingdom of Two Sicilies, opposed to the states of the north-central regions, until the unification of Italy in 1861. The present-day Province of Teramo constituted most of the territory of '*Abruzzo Ultra I*' until 1861 and currently includes the northern territory of the region, at the boundary with the former '*Stato Pontificio*'. The socio-economic development of the region followed the general pattern described for southern Italy, but was slightly delayed with respect to more northern regions^{27–30}. Historically, the Province of Teramo was mainly characterized by agricultural subsistence regimens; in particular, share-cropping was the prevailing economic system³¹. In the more internal zone on the slopes of the Apennines, this was supplemented with pastoral and woodland activities³². In the 1960s, the zone underwent strong economic transformation due to the develop-



Fig. 1. The Abruzzo Region and the geographical position of the investigated town and villages in the Province of Teramo.

ment of small textile, clothing and leather firms, which radically modified and expanded the labour market. In more recent years, however, there has been a crisis in terms of employment opportunities and production costs, because of the opening of economically more competitive markets in Eastern Europe. This problem was solved with the revision and improvement of technologies and product quality, which aligned and included the zone within the neighboring area of Ascoli Piceno to the north, where the advanced 'Adriatic economic model' developed³³.

Subjects and Methods

The general geographical and population data for Teramo and the nine villages are listed in Table 1. They are all located in a hill-plain position and most of them are rather small, less than 4,000 inhabitants in the middle of the 19th century. The village of Civitella del Tronto comprises ten 'frazioni' or 'villas' scattered throughout 77.51 km², all with their own parish, and Montorio has 16 'frazioni'

throughout 53.49 km² with 6 parishes. The data on population size were collected from different sources:

- 'Status Animarum' (Catasto Onciario): only available for Civitella del Tronto and Teramo in the mid-18th century³⁴;
- Appendix, table A10 for the years 1793 and 1828³⁵;
- Annual Population Status reports for the years 1806³⁶ and 1813³⁷;
- Censuses from 1861 to 1971 for the years 1861 and 1871³⁸.

For the study of marriage seasonality, data were collected from parish marriage registers dating from the 16th century to 1871. The village of Civitella del Tronto (C.d.T.) includes 11 parishes, 2 of which lacked marriage registers; Tortoreto has 2 parishes; data on Montorio are from the parish of the village. The chronology and number of marriages in the 19 parishes are listed in Table 2. Gross data were controlled previously to check for possible missing data within each year, mainly due to: 1) the change from one register to

TABLE 1
GENERAL GEOGRAPHIC AND POPULATION INFORMATION

Towns	Altitude (m. a.s.l.)	Population							
		1747	1753	1793	1806	1813	1828	1861	1871
Campovalano*	464	–	–	–	–	–	–	–	–
Canzano	448	–	–	1726	1658	1849	1831	1690	1941
Civitella del Tronto	386–719	–	4598	4707	4939	5110	5703	7054	7426
Controguerra	267	–	–	1129	1380	1487	1520	2248	2376
Corropoli	138	–	–	–	2018	2678	2271	3736	3529
Giulianova	58	–	–	2142	2462	2793	3121	4837	4873
Montorio	262	–	–	3227	2108	2515	3602	4919	5383
Nereto	165	–	–	1684	1690	2035	2153	2613	2792
Teramo	267	6217	–	11815	8305	10151	12633	19961	20639
Tortoreto	239	–	–	1322	1500	1846	1936	2541	2953

* Campovalano is a 'frazione' of the village of Campli (not included in the research). Therefore, population data are not available.

TABLE 2
CHRONOLOGY AND NUMBER OF MARRIAGES IN THE VILLAGES UNDER CONSIDERATION

Parish	Years	N
Campovalano	1685–1871	278
Canzano	1627–1698; 1704–1761; 1767–1871	2182
Civitella del Tronto (Village)	1623–1871	2225
C.d.T. Borrano	1762–1856	232
C.d.T. Gabiano	1733–1819; 1837–1871	101
C.d.T. Montesanto	1704–1871	1268
C.d.T. Piano S. Pietro	1739–1871	525
C.d.T. Ponzano	1631–1665; 1687–1699; 1708–1871	910
C.d.T. Ripe	1599–1613; 1623–1799; 1802–1871	780
C.d.T. Rocca S. Nicola	1728–1793; 1808–1871	154
C.d.T. Rocca S. Felicità	1699–1744; 1747–1833	170
Controguerra	1732–1871	1238
Corropoli	1564–1574; 1576–1579; 1583–1595; 1598–1697; 1717–1725; 1730–1871	3357
Giulianova	1580–1597; 1626–1629; 1644–1871	4790
Montorio	1610–1770; 1782–1871	2774
Nereto	1695–1871	2057
Teramo	1652–1670; 1676–1780; 1852–1871	2999
Tortoreto S. Eufemia	1762–1784; 1802–1870	697
Tortoreto S. Nicola	1755–1871	968

another; 2) vacancies or death of the priest during crisis periods. In these cases, incomplete or dubious years were eliminated. The total number of analyzed marriages was 27,705.

Since samplings of several single villages and different groups of villages allays displayed the same patterns, the results refer to the whole Province. Moreover, for a reliable distribution of monthly

samples, seasonality was analyzed by century. The number of marriages was expressed as so many per 1,200, corrected according to the number of days in each month so that the number of expected marriages per month would be 100 if there were no seasonality.

To evaluate the observed differences between centuries, we applied correspondence analysis using the SPAD.N package (version 4). This method provides the most information, since it represents the different centuries on a plane and shows which months are mainly responsible for the obtained distribution.

Results

The monthly distribution of marriages in each century, and the relative indices, are reported in Table 3 and displayed in Figure 2. There is marked seasonality in all centuries, with significant differences ($p < 0.001$) from one century to another. This suggests a changing attitude toward the most appropriate time to marry. However, despite the observed differences, a similar pattern of marriage seasonality

in all centuries can be drawn. It is generally characterized by low frequencies of marriages in March, July and August and an increase in January, February, May and June.

The 16th century displays a more marked reduction in March and some differences in January, April and December. Although in line with the general pattern of seasonality in the following centuries, these results refer to a low total number of marriages; thus, the observed differences could be due mainly to stochastic fluctuations.

In the 17th century, the highest marriage frequencies are in January (147) and February (180), followed by a huge decrease in March (54), the Lent period. May and June are again preferred months for marriages, with indices above 120. The following summer and autumn months are instead generally avoided, with the exception of November (121).

This pattern also applies to the 18th century. January, February, May and June are the months with frequencies above 120; in particular, February has the high-

TABLE 3
NUMBER OF OBSERVED MARRIAGES AND MONTH INDEX IN TEN VILLAGES OF THE PROVINCE OF TERAMO IN FOUR CENTURIES

	16 th century		17 th century		18 th century		19 th century	
	N	Index	N	Index	N	Index	N	Index
January	95	230.28	650	146.91	1072	122.59	909	90.80
February	47	124.50	728	179.80	1198	149.72	1248	136.23
March	6	14.54	240	54.24	587	67.13	570	56.94
April	65	162.43	427	99.49	826	97.38	788	81.15
May	54	130.90	573	129.50	1142	130.60	1109	110.77
June	33	82.47	519	120.93	1153	135.94	1245	128.21
July	27	65.45	229	51.76	470	53.75	632	63.13
August	30	72.72	269	60.80	600	68.62	869	86.80
September	41	102.46	409	95.30	810	95.50	1011	104.11
October	39	94.54	305	68.93	667	76.28	1142	114.07
November	45	112.45	519	120.93	829	97.74	1205	124.09
December	3	7.27	316	71.42	916	104.76	1038	103.69
Total	485	1200	5184	1200	10270	1200	11766	1200

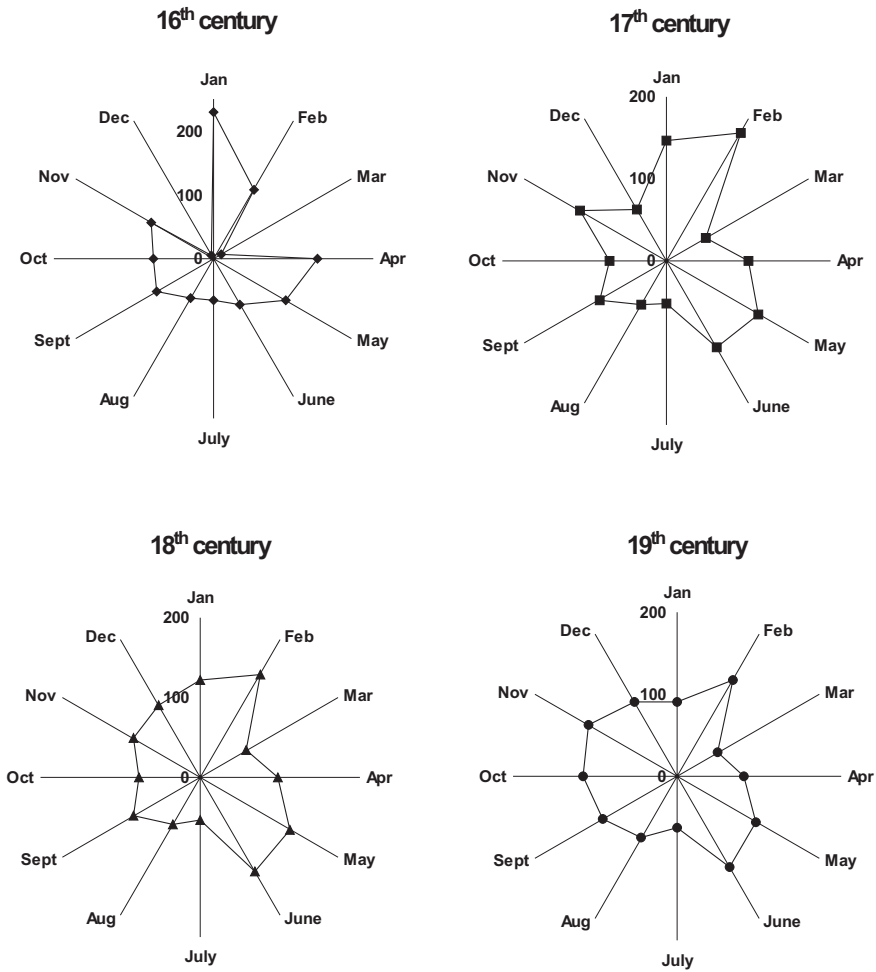


Fig. 2. Monthly distribution of conceptions in four centuries in the Province of Teramo.

est value, approaching 150. Among the other months, March (67), July (53.7), August (68.6) and October (76) have the lowest values: March because of the Lent period, whereas in the other three months, agriculture, wood-gathering and wine-making are mainly responsible for the decrease in marriages.

Slight differences are found in the 19th century, due mainly to the increasing importance of September and the autumn

months, November having the highest frequency (124). February (136) is still the preferred winter month, and May and June, although with lower values than in the previous century, have indices above 110. As usual, March (57), April (81), July (63) and August (87) have the lowest marriage frequencies.

The pattern of marriage seasonality that emerges is the one described for rural sedentary agricultural populations,

characterized by autumn-winter marriages^{8,18,25,39}. However, the following peculiarities should be mentioned:

1. November, January and February are the preferred months in the earlier centuries;
2. among the other months, May and June are of importance, especially in the 18th and 19th centuries;
3. religious restrictions are limited to the Lent period and, to a lesser extent, the Advent period in December.

Evolution of the pattern in time

Figure 3 shows the projection of each month and century on the factorial plane (1, 2). Correspondence analysis was carried out with the data for the 17th, 18th and 19th centuries; the 16th century was

not included since the total number of marriages in it was too low.

The first factorial axis explains approximately 91% of the total variability of the data. The most interesting result is that the position of the three centuries in the plane follows a clear chronological order along factor one, passing from the 17th to the 19th century. This indicates the presence of an evolutionary trend in the distribution of marriages in the different months of the year.

The most important months characterizing the trend are January, May, June, April, August and November. January shows a clear and progressive reduction of marriage frequencies in time; the same occurs in February, although to a lesser degree. This suggests that the causes of

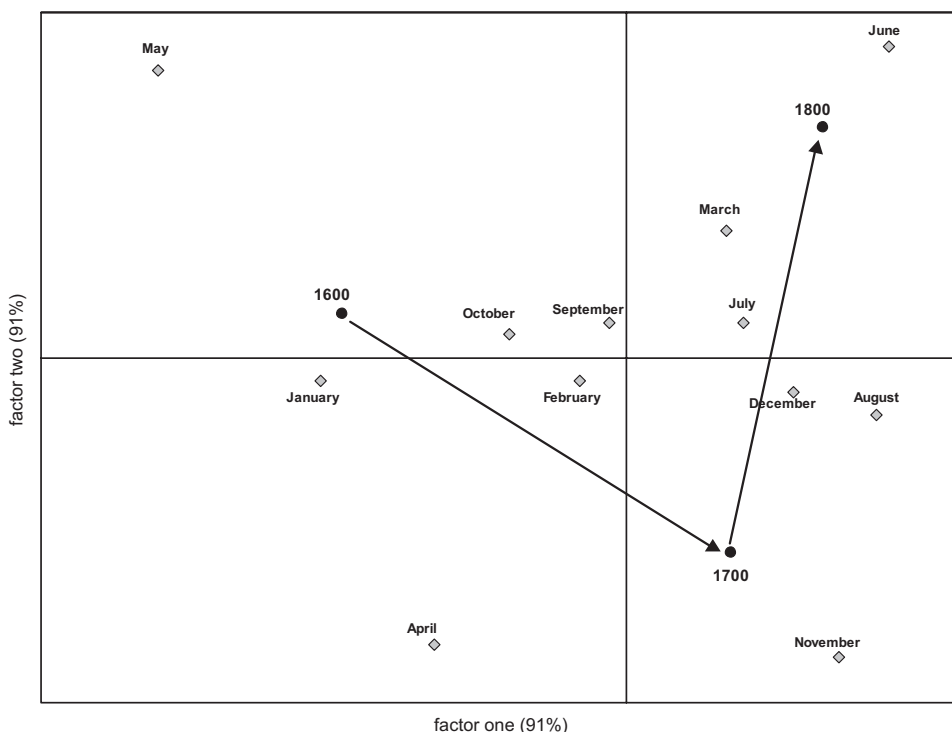


Fig. 3. Correspondence analysis (first and second components) of the marriage seasonality in the Province of Teramo in three centuries.

the observed reduction of January marriages through the centuries maintain their influence in the following month.

The opposite occurs for August: from the 17th century, marriages increase consistently in this month, following a similar but weaker tendency starting in July.

In April and May, there is a strong decrease of marriages in the 19th century with respect to the fairly high frequencies in the previous two centuries. Although displaying the same trend, marriages in May are constantly higher than those celebrated in April. Their position in the graph is mainly influenced by factor two, which is less important since it explains only 9% of the total variability of the data. Therefore, it seems to depend on the different frequencies of marriages between these two months rather than on their evolution in time.

June is characterized by high frequencies in the 18th century but lower ones in the other two. In contrast, November has lower frequencies in the 18th century than in the 17th and 19th centuries.

Within the general pattern of marriage seasonality, typical of agricultural communities, the correspondence analysis reveals an evolution in time due mainly to the variation of marriage frequencies in January/February and July/August, the former decreasing and the latter increasing. The observed differences in the other months influence the trend in a secondary way, suggesting that they are short-term fluctuations.

Discussion

Seasonality of marriages in 'traditional' societies is affected by many different factors acting synergically. The result is usually a stable pattern in each community. Two main models are known: one typical of agricultural societies, with at least three sub-models^{18,39}, and a second

developed by pastoral groups^{8,40}. The pattern of marriage seasonality can be recognized in any region until the effects of the industrial revolution become evident. Nevertheless, within the general models, there are differences between- and within- communities in time. These result from the prevailing and/or temporary influence of one or a few of the factors that determine the pattern. It is of interest to human ecologists to study the patterns of marriage seasonality because it allows an understanding of:

- the prevailing subsistence activity;
- the peculiarities of the pattern and the main factors affecting it;
- the possible effects of the observed model on the biological microdifferentiation of different communities;
- the general fitness of subsequent generations in terms of differential fertility and mortality patterns. To this purpose, it is known that transhumance acted as a regulator of reproduction rates in pastoral groups because of the absence of men in the winter months^{40,41}. In agricultural groups, seasonal field activities and work loads acted to reduce both the frequencies of marriages and the physiological-reproductive functionality^{18,42,43}. Furthermore, the survival capability of offspring is highly affected by the month of birth⁴⁴.

The results of the present study relating to the Province of Teramo show general agreement in all centuries with the agricultural patterns of other lowland or south-central Italian groups^{18,45–48} and Mediterranean regions^{18,26,39}, although with some differences in specific months. Religious factors strongly affected the timing of marriage only during Lent. Finally, of interest is the progressive increase through the centuries of marriages in the summer-autumn months, associated with a decrease in January and February. According to Lucchetti et al.¹⁸,

this suggests the passage from a summer migration system to a rural sedentary system with occasional seasonal work. Peculiar to this region are the marriage peaks in May and June still in the 19th century; in fact, they are popular months for marriages in summer migration systems but are months, especially June, of high work load in sedentary groups. One possible explanation is the persistence of substantial seasonal work in some of the villages, in particular Civitella del Tronto which had very high marriage frequencies (index > 150) in June in all the centuries. Further research will focus on the analysis and correlation of the seasonal

distributions of baptism and mortality, in order to further the historical-evolutionary reconstruction of vital events in this region.

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SEZONALNOST VJENČANJA I EKOLOŠKI KONTEKST U RURALNIM ZAJEDNICAMA SREDIŠNJE JUŽNE ITALIJE (ABRUZZO), 1500–1871

S A Ž E T A K

Sezonalnost sklapanja brakova tijekom četiri stoljeća u Provinciji Teramo (Abruzzo, Italija) analizirana je na uzorku od 27.705 brakova, a u cilju identifikacije prisutnosti dugotrajnog uzorka povezanog s dominantnim aktivnostima vezanim uz preživljavanje zajednice te osnovnih čimbenika koji na njega utječu. Rezultati su pokazali kako tijekom svih ovih stoljeća postoji općeniti uzorak koji je vezan uz zemljoradničke poslove i podudaran je, uz neke razlike, onom u drugim ruralnim zajednicama središnje južne Italije (Piedmont, Veneto, Liguria, Emilia Romagna, Tuscany, Latium, Campania, Apulia) te u drugim regijama Mediterana (Španjolska, Francuska). Pokazalo se kako religijski čimbenici imaju snažan učinak na vrijeme sklapanja brakova samo tijekom korizme. Zanimljiv je progresivan porast kroz stoljeća brakova sklopljenih u ljetnim i jesenskim mjesecima, uz pad u broju vjenčanja u siječnju i veljači. Ovo sugerira prijelaz iz ljetnog migracijskog sustava na ruralni sjedilački sustav s povremenim sezonskim radom.