

Socio-economic Factors Associated with the Reproductive Behaviour in Rural Population of the Granada Province, Spain

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ABSTRACT This study was aimed towards the characterization of the reproductive behaviour of women, living in mid-size populations of the rural context of the Granada province (Andalusia, Spain). The analysis focused on the role of the women's socio-economic status as a modulator of these patterns, as well as their variation according to the age of the woman. A total of 214 residents of Guadix and Motril, within 20 to 82 years of age, were interviewed, getting information regarding several reproductive variables (age at first marriage and first birth, number of pregnancies and children, among others) along with socio-economic related ones (level of education and economic activity). Results showed that, apart from the youngest ones, within the range of age comprised in the study, the reproductive behaviour of these women has not varied noticeably. Besides, compared to available data for the rest of the territory, it could be classified as traditional. For the other aspects included in the research, the level of education, unlike in other populations, happens to have no effect, while economic activity has greater weight as a conduct modifier. Because of this all, it can be inferred that, at least for their reproductive patterns, the women of these two populations maintain deeply-rooted customs.

INTRODUCTION

The reproductive behaviour, as many other aspects concerning the human being, can be understood as the result of co-evolution of the cultural, socio-economic and biological systems, that each population develops according to the environment it lives in (Bernis 2005).

With respect to these patterns, the Demographic Transition, and the social changes that promoted it, have derived in the gradual but important decrease in birth rate, most European countries went and are still going through these days (Muñoz 1982; Monnier and Guibert-Lantoine 1996; Laihoner 1999). The consequence is a set of elderly populations where the rates of demographic renovation are no longer reached, leading also to great socio-economic challenges, that are the reason for the maternity promotion policies many governments are developing. However, it is clear that, for these policies to work, there is a need for an insight analysis of the determinants influencing reproduction.

Some are the factors featuring the reproductive conduct, such as the age at marriage, the proto-genetic interval, number of children, intergenetic

intervals, along with the maternity control (Sánchez 1991; Salvat and Crognier 1994) among others, and the relationship between them and the social environment of woman, specially her incomes and level of education, has been extensively studied (Rindfuss et al. 1996; Heck et al. 1997; Peña et al. 1999; Payne 2004, Acevedo 2006). In the last few decades, the reproductive behaviour has undergone important changes, and it's basis can be found in the modification of both the woman's social role, and the family-related system of values (Bernis 1997).

That is why there is a strong need for research into the influence of the socio-cultural environment and it's specific characteristics, and not only because of the mid and long-term socio-economic implications, but the immediate ones the reproductive patterns have on the biology and health of both women and their children (Sarasqueta 2001; Kirchengast and Hartman 2003 a, b; Alonso et al. 2005).

As a first approach to this matter, it must be realised that in a greater or lesser degree, all countries show certain level of inner heterogeneity regarding the development of their several regions. In the Spanish context, Andalusia has been, and still is, one of the less socio-economically developed regions, with differences regarding several indicators even at present. In this respect, the annual income per home, as well

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as the level of education, are lesser than the national means (INE 2004).

The historical imbalance, that has always existed between the degree of development of urban and rural populations, and its reflection on the biological parameters (Szemik 1984 a, b) must neither be forgotten. Although these differences seem to have lessened (Marrodán et al. 2000), there is no defined borderline between rural and urban settlements, so there are populations that have an intermediate size, and that might be named as town-cities. These are very common in the southern coast of Spain, and, as the promotion of pro-maternity policies should suit the characteristics of each population as well as possible, it is very important to assess up to what point the behaviour of these crowded rural populations, and that of the urban ones, differ.

With this perspective, this study was focussed towards the analysis of the influence of the cultural environment, specifically the socio-economic status of woman, upon the reproductive behaviour of a mid-sized rural-urban population in the province of Granada.

SAMPLE AND METHODS

The sample consisted on a total of 214 women, within 20 to 82 years old (mean age 48.8 years, s.d. = 14.8), residents in the municipalities of Guadix and Motril (116 and 98 women, respectively), who were interviewed in the spring of 2005. The only requisite for the inclusion in the study was to have lived in that area since they were younger than five years old.

In order to understand how the social determinants influence their reproductive patterns, several reproduction-related variables were studied with respect to the socio-economic status of the woman, inferring this one from the level of education, working activity (whether she has ever had a job or not: "J" and "N.J." respectively), and occupation. The reproductive behaviour was analysed through the menarche, age at first marriage and first birth, and the protogenetic

interval in years, along with the number of pregnancies, children and miscarriages. Table 1 shows the categorisation of both the educational and occupational level, that was used in the study.

In the approach to menarche, the retrospective method was the one applied, making use of the 0.5 years correction factor of Hediger and Stine (1987).

Research into the socio-economic status of women was the first point, so that its variation in time, within the range of age determined by the sample, could be assessed. For this purpose, women were separated, according to their age, into the following groups: 20-35 years, 36-50 years, 51-64 years and ≥ 66 years.

The comparison of the mean age of women, among each socio-economic category (Table 2), shows that the educational level, as well as the professional status, have changed significantly, with higher socio-economic status in younger women. Also, those who have ever had a job, are younger at mean than those who have not.

All this data leads to conclude that the socio-economic status of this populations, have experienced a significant improvement throughout the six decades included in the study, what could produce unreal relationships when comparing the reproductive variables according to the mentioned status. Therefore, all the analysis was done separately within each group of age.

The SPSS 12.0 for Windows was the Pc programme used in the analysis of the data, calculating descriptive statistics (means and standard deviations), along with non-parametric tests ("H" of Kruskal-Wallis, "U" of Mann-Whitney and Spearman's correlations), as none of the quantitative variables' distribution adjusted to a Normal one. When sample size was less than five, no analysis was made.

RESULTS

Variation of the Reproductive Behaviour Throughout Time

The modification of the reproductive

Table1 : Categories of the variables regarding the socio-economic status.

<i>Level of education</i>	<i>Profession</i>
Without studies (illiterate and women who can read and write) - W.S.	Housewife or pensioner - H.P.
Primary school - P.S.	Non qualified worker - N.Q.W.
Secondary or higher - S.H.	Qualified worker - Q.W.
	Administrative, high administrative or businesswoman - A.H.B.

Table 2: Mean age of women in each category regarding the socio-economic status.

	<i>N</i>	<i>X</i>	<i>d.e.</i>	<i>H</i>	<i>p</i>
<i>Level of Education</i>					
Without studies	111	56.4	13.0	74.189	0.0001*
Primary school	57	45.3	12.4		
Secondary or higher	46	34.8	8.8		
Total	214	48.8	14.8		
<i>Profession</i>					
Housewife or pensioner	67	55.5	13.4	55.165	0.0001*
Non qualified worker	61	53.66	14.1		
Qualified worker	30	44.3	13.4		
Administrative, high administrative or businesswoman	56	37.8	10.5		
Total	214	48.8	14.8		
<i>Working Activity</i>					
Job	70	55.3	13.5	3081.500	0.0001*
No job	144	45.6	14.4		
Total	214	48.8	14.8		

variables in the groups of age included in the study is shown in Table 3. The beginning of the woman's reproductive capacity, set by menarche, has experienced a steady advancement within the period of time comprised in this study, being this variation of 7.6 months every 15 years, what is equivalent to 5.04 months per decade.

On the other hand, in most societies marriage determines the entry in the real reproductive period, thus marital status is equally important in the assessment of this patterns. In this population, the great majority of women (84.6%) are married or have ever been married, and the mean age at first union, which for the whole sample is 22.7 years (s.d. = 4.1), has tended to increase throughout the six decades analysed. This variation is specially marked within the youngest ones (Table 3), with the possibility of enhancing this difference, as the 48.9% of women in this group of age are single.

It can be likewise verified that, in all groups of age, there is a direct correlation between age at first marriage and age at first birth ($r_{20-35} = 0.956$, $r_{36-50} = 0.842$, $r_{51-65} = 0.934$, $r_{\geq 60} = 0.956$; $p = 0.0001$),

therefore demonstrating the association of marital status and family planning previously mentioned.

Even though not at significant level, the same delay tendency can be described for the age at first maternity as well as for the protogenetic interval, the age of 50 being apparently an inflexion point since when both parameters begin to vary. It is also interesting to outstand that the first birth takes place, in mean, at least one year after marriage, that indicates that it is the marital union that determines maternity.

The mean number of pregnancies and children, as expected, increases with age (Table 3), even though, when comparing women in the two highest groups of age, whose reproductive period is already over, no differences are noticed ($p > 0.005$). The number of miscarriages, in this population, does not seem to have varied throughout time.

Effect of Socio-economic Factors on the Reproductive Behaviour

Tables 4 to 7 show the analysis of the repro-

Table 3: Age and reproductive variables description according to age group

	20-35			36-50			51-65			≥ 66			<i>H</i>	<i>p</i>
	<i>N</i>	<i>X</i>	<i>(d.e.)</i>	<i>N</i>	<i>X</i>	<i>(d.e.)</i>	<i>N</i>	<i>X</i>	<i>(d.e.)</i>	<i>N</i>	<i>X</i>	<i>(d.e.)</i>		
Menarche	47	12.3	(1.3)	69	13.0	(1.4)	65	13.4	(1.6)	31	14.2	(1.2)	30.406	0.0001*
Age at first marriage	23	23.3	(3.4)	64	22.7	(4.2)	63	22.6	(4.7)	29	22.1	(2.7)	2.002	0.572
Age at first birth	19	25.2	(4.0)	62	24.8	(5.1)	63	23.8	(3.8)	28	23.4	(2.8)	3.349	0.341
Protogenetic Interval	18	2.1	(1.7)	62	2.1	(3.0)	62	1.5	(1.9)	28	1.4	(0.9)	4.214	0.239
No. pregnancies	47	0.7	(1.0)	70	2.4	(1.3)	66	3.0	(1.6)	31	3.1	(1.9)	64.433	0.0001*
No. children	47	0.7	(1.0)	70	2.1	(1.1)	66	2.8	(1.4)	31	2.9	(1.6)	64.992	0.0001*
No. miscarriages	47	0.1	(0.3)	70	0.3	(0.5)	66	0.3	(0.6)	31	0.2	(0.6)	6.507	0.089

ductive patterns, according to the socio-economic status of women. In this population, neither the age at first marriage and birth, nor the protogenesic interval, are statistically modified by the educational level (Table 4), menarche do tending to be earlier, in the 20-35 and 51-65 groups of age, in those women with higher degree of education. For the youngest women, this correlation is statistically significant (Table 7).

With respect to the fecundity-related variables (Tables 4 and 7), again no effect of the level of studies can be appreciated. Only in the 20-35 group of age, the number of pregnancies and children tend to decrease as the educational category improves, no defined variation observed for the rest of women. There is no relationship between the educational level and the number of miscarriages.

Analysing the temporal variation of this women's reproductive behaviour within each

educational category, it is interesting to check that the secular change in menarche is patent only for those without studies ($H = 10.164$ $p = 0.017$). Taking into account, what was previously said about maternity and the proportion of married women in the youngest group, the ages of first marriage and birth show a noticeable increase in this group of age, although trends are, in general, irregular or very little marked. No significance is reached anyway.

However, the number of pregnancies and children, logically, decreases to the younger women (No. pregnancies: $H_{W.S.}=12.728$; $p=0.005$, $H_{P.S.}=15.093$; $p=0.001$, $U_{S.H.}=64.0$ $p=0.0001$; No. children: $H_{W.S.}=16,931$ $p=0.001$, $H_{P.S.}=10.894$; $p=0.004$, $U_{S.H.}=67.0$; $p=0.0001$). All this corroborates what was found in the analysis of the reproductive variables, for the whole sample.

The other factor included in the socio-economic status, the economic activity, has also

Table 4: Reproductive variables description according to educational level.

		Without studies			Primary studies			Secondary or higher			H/U	p
		N	X	(d.e.)	N	X	(d.e.)	N	X	(d.e.)		
20-35	Menarche	10	13.1	(1.4)	14	12.6	(1.4)	23	12.4	(1.1)	5.239	0.073
	Age at first marriage	5	22.0	(3.8)	8	25.1	(3.0)	10	22.6	(3.1)	2.919	0.232
	Age at first birth	6	24.2	(3.7)	6	26.7	(3.3)	7	24.9	(4.9)	1.084	0.582
	Protogenesic Interval	5	2.0	(1.0)	6	2.0	(1.4)	7	2.3	(2.4)	0.108	0.947
	No. pregnancies	10	1.1	(1.2)	14	0.9	(1.3)	23	0.4	(0.7)	3.127	0.209
	No. children	10	1.0	(1.0)	14	0.9	(1.3)	23	0.4	(0.7)	2.813	0.245
	No. miscarriages	10	0.2	(0.4)	14	0.1	(0.4)	23	-	-	4.340	0.114
36-50	Menarche	25	13.1	(1.2)	23	13.3	(1.5)	21	12.1	(1.6)	2.161	0.340
	Age at first marriage	23	23.2	(4.3)	21	22.1	(3.7)	20	22.9	(4.7)	0.850	0.654
	Age at first birth	23	24.8	(4.6)	21	24.9	(6.0)	18	24.6	(4.8)	0.043	0.979
	Protogenesic Interval	23	1.6	(2.4)	21	2.8	(3.6)	18	1.9	(3.0)	1.198	0.549
	No. pregnancies	25	2.4	(1.0)	24	2.3	(1.3)	21	2.5	(1.6)	0.139	0.933
	No. children	25	2.1	(1.0)	24	2.0	(1.1)	21	2.1	(1.3)	0.090	0.956
	No. miscarriages	25	0.3	(0.5)	24	0.2	(0.5)	21	0.4	(0.7)	0.665	0.717
51-65	Menarche	48	13.5	(1.6)	15	12.4	(1.8)	2	12.0	(1.4)	352.0	0.896
	Age at first marriage	47	22.5	(5.1)	14	23.4	(3.1)	2	19.5	(2.1)	240.0	0.125
	Age at first birth	46	23.3	(3.4)	15	25.7	(4.4)	2	20.0	(2.8)	219.0	0.034*
	Protogenesic Interval	46	1.4	(1.9)	14	1.9	(1.9)	2	0.5	(0.7)	253.0	0.184
	No. pregnancies	49	3.0	(1.7)	15	2.9	(1.1)	2	5.0	(1.4)	351.0	0.788
	No. children	49	2.8	(1.4)	15	2.5	(1.1)	2	5.0	(2.8)	312.0	0.363
	No. miscarriages	49	0.2	(0.6)	15	0.4	(0.5)	2	0.5	(0.7)	279.0	0.045*
≥66	Menarche	27	14.3	(1.3)	4	13.0	(0.8)	-	-	-	-	-
	Age at first marriage	26	22.4	(2.7)	3	19.7	(0.6)	-	-	-	-	-
	Age at first birth	25	23.5	(3.0)	3	22.3	(0.6)	-	-	-	-	-
	Protogenesic Interval	25	1.3	(0.8)	3	2.7	(1.1)	-	-	-	-	-
	No. pregnancies	27	3.0	(1.8)	4	3.7	(2.9)	-	-	-	-	-
	No. children	27	2.9	(1.6)	4	2.7	(1.9)	-	-	-	-	-
	No. miscarriages	27	0.1	(0.4)	4	0.7	(0.9)	-	-	-	-	-

Groups with less than five women were not included in the statistical analysis, with U of Mann-Whitney as the test for those comparisons comprising two groups only.

an irregular effect on these women's reproductive patterns, not finding, throughout all the groups of age, a constant influence of neither the working activity nor profession (Tables 5 to 7). The economic aspect, however, seems to have a little greater influence on reproduction than the educational level.

Menarche does not vary, but on the contrary, both the age at first marriage and the age at the first birth tend to be delayed in those women, in the oldest group of age, who have ever had a job (Table 5). The improvement of the professional status is also related, in most of the age groups, to an increase in the age both of these events take place (Tables 6 and 7). Nevertheless, these differences are not patent in the 51 to 65 year old women, and happen to be irregular in the others (Tables 5 to 7). The protogenetic interval does not vary according to any of the economic-related parameters.

Focussing on fecundity, women younger than 51 years old referring a job, have or tend to

have less pregnancies and children, than those who don't refer to have ever had a salary involving activity (Tables 5 to 7). In the other groups of age, tendencies are the opposite, working women being the ones with greater fecundity. Again, the number of miscarriages does not show clear trends.

The same temporal analysis, carried out according to the educational level, was also done with respect to these working factors, resulting in very similar outcomes (Tables 5 and 6). In the vast majority of cases, menarche is earlier (Menarche - *Working activity*: $H_{N.J.} = 8.011$; $p = 0.046$, $H_{J.} = 23.369$; $p = 0.0001$; *Profession*: $H_{H.P.} = 8.240$ $p = 0.041$, $H_{N.Q.W.} = 8.780$; $p = 0.032$, $H_{Q.W.} = 11.760$; $p = 0.003$), and less pregnancies and children are referred (No. pregnancies - *Working activity*: $H_{N.J.} = 58.993$; $p = 0.0001$; *Profession*: $H_{N.Q.W.} = 18.510$; $p = 0.0001$, $H_{Q.W.} = 9.821$; $p = 0.007$, $H_{A.H.B.} = 25.337$; $p = 0.0001$; No. children - *Working activity*: $H_{N.J.} = 56.939$; $p = 0.0001$; *Profession*: $H_{N.Q.W.} = 20.409$; $p = 0.0001$, $H_{Q.W.} = 8.881$; $p = 0.012$,

Table 5: Reproductive variables description according to working activity.

		No job			Job			U	p
		N	X	(d.e.)	N	X	(d.e.)		
20-35	Menarche	7	12.4	(1.6)	40	12.3	(1.2)	136.00	0.903
	Age at first marriage	5	20.2	(3.8)	18	24.2	(2.8)	17.50	0.038*
	Age at first birth	5	22.0	(4.7)	14	26.4	(3.2)	14.50	0.055
	Protogenetic Interval	5	1.8	(1.3)	13	2.2	(1.9)	30.50	0.839
	No. pregnancies	7	1.4	(1.3)	40	0.6	(0.9)	82.50	0.052
	No. children	7	1.4	(1.1)	40	0.6	(0.9)	77.50	0.034*
	No. miscarriages	7	0.1	(0.4)	40	0.1	(0.3)	130.50	0.557
36-50	Menarche	19	12.8	(1.3)	50	13.1	(1.5)	422.00	0.462
	Age at first marriage	18	21.2	(3.7)	46	23.3	(4.3)	293.00	0.070
	Age at first birth	17	22.6	(5.2)	45	25.6	(4.8)	230.00	0.016*
	Protogenetic Interval	17	1.7	(4.2)	45	2.2	(2.5)	320.00	0.310
	No. pregnancies	19	2.9	(1.4)	51	2.2	(1.2)	299.00	0.011*
	No. children	19	2.4	(1.1)	51	2.0	(1.1)	372.50	0.119
	No. miscarriages	19	0.5	(0.7)	51	0.2	(0.5)	378.00	0.070
51-65	Menarche	24	13.1	(1.8)	41	13.6	(1.5)	450.50	0.567
	Age at first marriage	24	22.8	(6.8)	39	22.5	(2.8)	409.00	0.401
	Age at first birth	23	23.0	(3.8)	40	24.2	(3.7)	366.50	0.180
	Protogenetic Interval	23	1.5	(2.4)	39	1.5	(1.5)	379.50	0.268
	No. pregnancies	25	2.8	(1.6)	41	3.2	(1.6)	430.00	0.263
	No. children	25	2.6	(1.4)	41	2.9	(1.4)	465.50	0.521
	No. miscarriages	25	0.1	(0.3)	41	0.3	(0.6)	433.50	0.142
≥ 66	Menarche	19	13.9	(1.1)	12	14.7	(1.4)	81.50	0.171
	Age at first marriage	18	21.1	(2.2)	11	23.9	(2.5)	38.00	0.006*
	Age at first birth	18	22.4	(2.4)	10	25.2	(2.8)	40.00	0.016*
	Protogenetic Interval	18	1.3	(0.7)	10	1.6	(1.0)	77.00	0.483
	No. pregnancies	19	3.1	(1.9)	12	3.2	(2.0)	106.50	0.758
	No. children	19	2.8	(1.5)	12	3.0	(1.9)	107.00	0.772
	No. miscarriages	19	0.3	(0.6)	12	0.2	(0.4)	113.00	0.949

Table 6: Reproductive variables description according to profession.

	Housewife or pensioneer			Non-qualified worker			Qualified worker			Administrative, high administrative or businesswoman			H / U	p	
	N	X	(d.e.)	N	X	(d.e.)	N	X	(d.e.)	N	X	(d.e.)			
20-35	Menarche	7	12.4	(1.6)	7	13.1	(1.5)	9	11.4	(0.9)	24	12.5	(1.2)	7.258	0.064
	Age at first marriage	5	20.2	(3.8)	2	23.5	(2.1)	6	26.3	(2.6)	10	23.1	(2.4)	7.711	0.021*
	Age at first birth	5	22.0	(2.1)	2	26.0	(1.4)	4	29.0	(3.6)	8	25.1	(2.6)	6.056	0.048*
	Protophagesic Interval	5	1.8	(1.3)	1	2.0	-	4	2.7	(3.0)	8	2.0	(1.4)	0.099	0.952
	No. pregnancies	7	1.4	(1.3)	7	0.4	(0.8)	9	1.0	(1.4)	24	0.5	(0.8)	4.708	0.194
36-50	No. children	7	1.4	(1.1)	7	0.3	(0.5)	9	1.1	(1.5)	24	0.5	(0.7)	5.957	0.114
	No. miscarriages	7	0.1	(0.4)	7	0.1	(0.4)	9	0.1	(0.3)	24	0.0	(0.2)	1.233	0.745
	Menarche	17	12.6	(1.3)	17	13.5	(1.2)	11	12.7	(0.7)	24	13.2	(1.8)	5.184	0.159
	Age at first marriage	16	20.6	(3.4)	16	23.2	(4.6)	10	22.1	(2.7)	22	24.3	(4.6)	8.024	0.046**
	Age at first birth	16	22.2	(5.1)	16	25.4	(5.2)	10	23.9	(3.9)	20	26.8	(4.7)	9.208	0.027**
51-65	Protophagesic Interval	16	1.7	(4.3)	16	2.2	(2.0)	10	1.8	(1.9)	20	2.5	(3.0)	1.901	0.593
	No. pregnancies	17	3.1	(1.2)	17	2.2	(0.8)	12	2.4	(1.4)	24	2.0	(1.4)	9.430	0.024**
	No. children	17	2.5	(1.0)	17	2.1	(1.0)	12	1.9	(1.1)	24	1.9	(1.3)	3.210	0.360
	No. miscarriages	17	0.6	(0.7)	17	0.2	(0.4)	12	0.5	(0.7)	24	0.1	(0.3)	8.646	0.034**
	Menarche	24	13.1	(1.8)	26	13.6	(1.6)	7	13.5	(1.3)	8	13.4	(1.6)	0.463	0.927
≥ 66	Age at first marriage	24	22.8	(6.8)	24	22.8	(2.8)	7	21.9	(2.9)	8	22.2	(3.2)	1.624	0.654
	Age at first birth	23	23.0	(3.8)	25	24.7	(4.0)	7	23.1	(3.1)	8	23.7	(3.3)	2.818	0.421
	Protophagesic Interval	23	1.5	(2.4)	24	1.6	(1.9)	7	1.3	(0.7)	8	1.5	(0.7)	1.892	0.595
	No. pregnancies	25	2.8	(1.6)	26	3.0	(1.6)	7	3.6	(1.1)	8	3.5	(2.1)	1.465	0.482
	No. children	25	2.6	(1.4)	26	2.8	(1.5)	7	3.4	(1.1)	8	2.7	(1.5)	2.292	0.514
≥ 66	No. miscarriages	25	0.1	(0.3)	26	0.3	(0.7)	7	0.3	(0.5)	8	0.6	(0.7)	5.697	0.127
	Menarche	18	13.9	(1.1)	11	14.9	(1.2)	2	13.0	(0.7)	-	-	-	53.50	0.039**
	Age at first marriage	17	21.2	(2.2)	11	23.8	(2.7)	1	20.0	-	-	-	-	41.50	0.013**
	Age at first birth	17	22.3	(2.5)	10	25.3	(2.7)	1	22.0	-	-	-	-	36.00	0.013**
	Protophagesic Interval	17	1.2	(0.6)	10	1.8	(1.2)	1	2.0	-	-	-	-	65.00	0.334
≥ 66	No. pregnancies	18	2.9	(1.7)	11	3.7	(2.1)	2	2.0	(2.8)	-	-	-	73.50	0.256
	No. children	18	2.8	(1.5)	11	3.4	(1.7)	2	1.5	(2.1)	-	-	-	77.50	0.340
	No. miscarriages	18	0.2	(0.5)	11	0.3	(0.6)	2	0.5	(0.7)	-	-	-	92.00	0.774

Groups with less than five women were not included in the statistical analysis, with U of Mann-Whitney as the test for those comparisons comprising two groups only.

Table 7: Spearman's correlation coefficients between reproductive and socio-economic status variables (* = $p < 0.05$; ** = $p < 0.01$).

		<i>Menarche</i>	<i>Age at first marriage</i>	<i>Age at first birth</i>	<i>Proto-genetic interval</i>	<i>No. pregnancies</i>	<i>No. children</i>	<i>No. miscarriages</i>
20-35	Level of education	-0.364*	-0.076	-0.028	-0.147	-0.234	-0.221	-0.299*
	Profession	0.068	0.170	0.176	-0.001	-0.218	-0.231	-0.161
36-50	Level of education	-0.135	-0.035	-0.016	-0.050	0.021	0.006	0.040
	Profession	0.048	0.324**	0.345**	0.134	-0.305*	-0.184	-0.251
51-65	Level of education	-0.080	-0.016	0.105	0.017	0.115	0.094	0.163
	Profession	0.823	0.051	0.106	0.173	0.172	0.084	0.259*
≥ 66	Level of education	-0.223	-0.319	-0.131	0.475*	0.128	-0.037	0.366*
	Profession	0.190	0.383*	0.406*	0.284	0.124	0.049	0.186

$H_{A.H.B.} = 24.337$; $p = 0.0001$), as women are younger, what can be explained by the same reasons previously exposed. On the contrary, the age at first birth does not vary according to there working parameters, and the age at first marriage is modified, this is, delayed in the new generations, only in the “qualified worker” group ($H = 7.039$; $p = 0.03$). Moving to the number of miscarriages, even though it increases with age in the group of women with higher profession level ($H = 10.649$; $p = 0.005$), does not show clear trends in the other categories of working activity nor profession.

DISCUSSION

Spain is one of the European countries that has experienced a later socio-economic development, partly because of the civil war that took place at the end of the 30's (1936-39). This unstable situation resulted in a tough recovery that did not take off until the 60's and 70's, featuring intense migration flows among the autonomous communities, and from rural settlements to cities or rural areas with a greater degree of development. Since then, many of these mid-developed rural regions have gone through a urbanisation process, that could have had it's effect on both the biology and the behaviour, of the populations there settled, including their reproductive patterns. In some Andalusian populations this change has been slower, and one of the reason for that, is the conservatism and prevailing of traditional profiles (Luna 1984; Luna and Fuster 1990).

In the sample focussing this current study, for example, socio-economic progress has had a clear reflection on the secular change in menarche, also observed in other Spanish populations, either rural (Rivas et al. 2003) or urban (Fernández and Prado 2005), and which is just slightly lower

than that referred in Madrilean rural women (Martínez et al. 2003; Rivas et al. 2003). This noticeable decrease, over the 4.8 months per decade described in 1966 by Tanner in urban women, gives a good approach to the great change life conditions have experienced, in this area, over the last 70 years.

With respect to family planning, education might be one of the reproductive behaviour's most important modulating factor (IEA 2003; Toulemon 2005; Acevedo 2006), although it's effect can be reduced in those populations ruled by traditional and deeply-rooted systems of values (Luna 1984; Luna and Fuster 1990). This seems to be the case of the women here analysed, whose marriage still determines the entry to the social reproductive period, and whose educational level doesn't influence either the age at first marriage, nor the age at first birth, as other studies have pointed out (IEA 2003; Acevedo 2006). Same as with the previously mentioned aspects, fecundity doesn't vary, youngest women being the only ones who tend to reduce the number of pregnancies and children, as their education improves. This contrasts with what has been observed in several other populations (Perez et al. 1993; Castro and Juárez 1995; Veron 1996; IEA 2003), including the moslem one (Acevedo 2006), historically so traditional.

This stability regarding fecundity, is also patent when comparing, the fertility patterns of the 15 to 49 year old women included in this study, with official data for this autonomous community (range of age for what data are available: INE 1999). The registered mean number of children per woman, for those illiterate or without studies, is 3.52, a much higher value than that of this current sample. For women with primary studies, fecundity is, in both cases, around 1.6 children,

but for those with a higher educational level, the referred mean, in this study, is higher than the mean for Andalusia (1.25 vs ~0.58).

In the context of the autonomous community (INE 2006), the women here analysed also prove to be very precocious in getting married, and national data (INE 2006) lead to conclude that maternity, at least in the younger groups, happens to occur earlier than in the rest of Spain, that indicates that, meanwhile it was increasing markedly in the country, it has remained relatively stable in these women from Granada. These deeply-rooted patterns, setting their reproductive behaviour, can be also found in the temporal evolution of some of the other factors, such as the age at first birth and the protogenetic interval, hardly experiencing the increase which has been observed in other populations (Laihonier 1999; IEA 2003).

Nevertheless, an important generational change, regarding these two parameters, seems to have happened in the youngest women, as their entry to marriage and reproduction, already delayed, could happen even later, for these women are still within the range of age these events usually take place.

Focussing on the economic issue, the working status has come up as a stronger determinant, for the modification of these behavioural patterns, than education. With this respect, the 50 year old group acts as a barrier since then younger women's marriage and maternity are more remarkably delayed as their professional status improves. On the contrary, the trend of fecundity appears to be the opposite between these two big groups, women older than this age tending to have more children as their working level gets better. Their capacity to support a larger family increases as their economic means improve, but on the other hand, fecundity of the younger women is slightly reduced with this improvement, that shows a change in their fecundity patterns.

It can be said that the working and economic opportunities of woman improve as her education do, but nowadays children's costs have increased, and the proportional investment on them is also greater than it used to be in previous generations (Ministerio de Cultura, Instituto de la mujer 1987), therefore the mean number of children would tend to decrease. This vision would be included within the analysis of maternity as the result of a costs - profits balance, and its basis would be on the interaction of many

different kind factors, whose specific weight has change in time (Ministerio de Cultura, Instituto de la mujer, 1987).

In conclusion, the system of values of these rural populations of Granada, seems to have remained relatively constant, their reproductive profile not having varied significantly. Also, the temporal evolution of these reproductive factors seems to be happening much more slowly and less remarkably than in other populations (INE 1999; INE 2006), what leads to think that, in this town-cities of the Granada province, traditional behaviours, at least with respect to reproduction, are still patent.

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