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Educational assortative mating in Italy: what can Gini's homogamy index still say?

1. INTRODUCTION

"Homogamy" is a Greek-derived word meaning "the mating of like with like", that is persons tend to marry those with characteristics similar to their own. Opposite to assortative mating, the term "heterogamy" indicates that partners with dissimilar characteristics attract each other.

The topic has been studied since the beginning of the 20th Century. The first review of the literature was by Harris in 1912. His article examined the significant research upon homogamy in physical characteristics such as age, stature, cephalic index, hair and eye color, health, longevity, and deafness. Then the interest moved from physical characteristics to intellectual abilities, to personality traits (Jones, 1929) and finally to social and cultural factors (Richardson, 1939; Burgess and Wallin, 1943). Research on ethnic and racial intermarriage originated in the United States with the aim of evaluating the degree of integration among the various nationality groups of immigrants and with the local population (Drachsler, 1920); also, religious intermarriage has been studied in order to see how much the different churches control the life choices of their members (Kennedy, 1944). Research on socioeconomic heterogamy was first developed in conjunction with studies on social mobility with focus on the role of education and occupational status. The scope is measuring the level of interaction across group boundaries (Glass, 1954): the higher the intermarriage or heterogamy the more the social groups are open to accept others' members; on the contrary, endogamy or homogamy can be considered as a form of closure aimed at maintaining distance between groups. Intermarriage is also an indicator of integration. The inter-connection among different groups through marriages may make individuals lose their negative attitude toward the other (i.e. the stranger): prejudices and stereotypes weaken and children grow up in a more open cultural frame (Kalmijn, 1991; 1998).

Thus, assortative mating is increasingly referred to as an indicator of social mobility and cultural openness and integration. A special role is played by educational homogamy: using a comparative perspective, Ultee and Luijkx

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(1990) found a positive relationship between educational homogamy patterns and the openness of intergenerational mobility patterns. Smith *et al*. (1998) showed an inverted U-curve relationship between level of socio-economic development and educational homogamy, partially explained by the prevailing religious culture and technological background.

At individual level, assortative mating is first of all a matter of choice in terms of "love" and sexual attraction; it also depends on individual preferences for selected characteristics in a partner. Education, again, is highly informative since it is not only related to income and status, but also to tastes, values and life style (Kalmijn, 1991). People with similar cultural backgrounds can be expected to share a "common universe of discourse" (DiMaggio and Mohr, 1985) and therefore they are likely to confirm each other's behaviour and worldviews (Kalmijn, 1994).

Assortative mating is also influenced by the social group which one belongs to, and by the constraints of the marriage market (Savorgnan, 1924; Kalmijn, 1991). That is, marriage patterns depend on structural factors such as residential segregation, local marriage market and the composition of the different groups. Indeed, the influence of marriage squeeze on homogamy has been deeply investigated (England and Farkas, 1987; Oppenheimer, 1988; Fraboni, 2000; Lichter *et al*., 1995).

A renewed interest in this field of study rises as a consequence of the changes occurred in gender imbalance in the marriage market driven by women's achievements in education and professional status. In this respect, the most important change occurred almost in all Western countries is that nowadays there are more highly educated women than men and they are reaching the marriageable and reproductive ages. In terms of assortative mating, this means that the traditional educational downmarrying among men - that is the groom with a higher level of education than the bride - has become less common due to a "shortage" of lower educated women (Mare, 1991). This reversal of gender inequality in education could change marriage patterns with consequences on nuptiality levels and possibly on fertility levels (Van Bavel, 2012).

The above mentioned process has been accompanied by a profound change in the meaning and the importance of marriage itself, with an increasing weight of informal cohabitations on total amount of couples. This is changing the usual conjugal patterns and the "partnership" market itself. It is sensible asking if the partner selection process among unmarried people acts differently and if the level of homogamy, namely educational homogamy, is the same as in standard marriages (Van Bavel, 2012). Moreover, the increasing amount of divorces and marital separations pours formerly married individuals on the partnership market. Second marriages and second unions may show specific patterns of assortative mating.

Lastly, most contemporary European countries are facing a massive increase in the amount of foreign people, and the longer the time they spend

in the destination country the higher the number of marriages or informal unions observed between them and with native population. The study of assortative mating could be used not only as a powerful indicator of social and cultural integration, but can shed further light on the role of educational homogamy in marriage pattern between native and foreign population, that is in transnational marriages.

In this paper we address the topic with focus on Italy. Our main questions concern the changes occurred in educational homogamy in recent decades and the emerging role of the informal partnerships, of the second and higher order marriages and of the intermarriage between and within the foreign population.

We will address the topic by a descriptive approach and by applying one of the most powerful statistical method proposed by Gini to study homogamy (Gini, 1915). As it will be more in-depth illustrated in the following section (section 2), our aim is to update previous studies on assortative mating in Italy based on the same index and to extend the analysis to evaluate the role of recent changes in partnership behaviors, that is the increase in informal and second unions, and in transnational marriages. The method is described in section 3 and the results are reported in section 4. At the end of the paper (section 5), we discuss the "modernity" of Gini's homogamy index and pros and cons of using it.

2.   STUDIES ON HOMOGAMY IN ITALY

In Italy, the first studies on assortative mating date back at the beginning of the 20th Century. Differently than in the USA, in our country the initial interest was more methodological than sociological.

As Bandettini (1950) noticed, studies on homogamy and marital attraction can be distinguished between those inspired to the search for a proper measure of the phenomenon and those aimed at defining the demographic laws and the essence of the homogamy issue and its determinant factors. Yet, the observation of the cross classified statistics on marriage by spouses' characteristics inspired much statisticians' work over association and correlation measures - namely that of Benini, Mortara, Gini and Andreoli (see citations in Bandettini, 1950); while research questions on reasons and consequences of assortative mating appeared later with the works by Savorgnan, Niceforo, De Castro (see again Bandettin, 1950).

Savorgnan (1924), taking as a premise the American studies on race and nationality intermarriage, proposed the use of Benini's and Gini's index for measuring homogamy by different characters including age, race, and religion. A more specific analysis on homogamy by social class is due to Castrilli (1939), while Bandettini (1950) studied the dynamics of partners attraction by age and marital status.

The topic was taken up by Golini (1961) who extended the analysis of homogamy by place of origin and place of residence of the spouses and by Visco[1] (1968) who also calculated homogamy measures by professional status of the partners. Thereafter, the theme of homogamy has been practically abandoned by the Italian demographers, if not within broader studies on marriage market (De Rose and Rufo, 1993; Fraboni, 2000; 2004). In particular, an attempt to answer the above topical issues - namely, the effect of recent increase of highly educated women, of the spread of informal unions and of foreign population on partner selection process - is lacking. This paper aims at filling this gap.

Our project follows the tradition of Italian studies on homogamy with the main intent to resume the most powerful analytical methods, namely those proposed by Gini. We apply them to updated data on marriages and try to evaluate how much these apparently "old methods" could address the above mentioned "new issues" in assortative mating.

It is worth noting that this approach of study on marital homogamy is conditional, given that marriage has taken place. Moreover, a common feature of such studies of marriage patterns is their descriptive character, since the ultimate aim is documenting level of homogamy within specific time and space constraints. As argued by Kalmijn (1998), there is less emphasis on the mechanisms that generate these patterns of marriage. Indeed, the analysis of longitudinal data covering the marital histories of individuals which would identify people at risk of marriage, who eventually get married, and to whom, is beyond the scope of the present work.

3   DATA AND METHODS

We use data from marriage registers by region of occurrence for the 1973, 1983, 1993, 2003 and 2013 marriage cohorts and from the multipurpose household surveys on "Family and social subjects" conducted by Istat in 2009. The fourty-years under analysis have been characterized by relevant shifts in the share of population having access to education and attaining secondary or university degrees: namely, the female population has shown a greater investement in human capital overcoming the proportion of graduated men (Cutillo *et al.*, 2015). As a consequence, the pool of male and female population available in the process of couple formation has qualitatively changed, at least with reference to education. The aim is to apply the Gini's index of assortative mating for couples of partners aged 15-49 years by level of education and at regional level.

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[1] Gabriella Visco, a talented researcher in demography at the former Demography Department - Sapienza University of Rome, suddenly passed away in Nov. 2015. This paper is dedicated to her memory.

Starting from a two-way table by spouses' characteristics in a given calendar year, let T be the total number of marriages in a given year, L_x the number of grooms in category x, C_x the number of brides in category x, A_x the number of marriages of partners with the same x, i.e. the amount of couples of homogamous partners.

We refer to the Gini's index (1915), named homogamy index (*indice di rassomiglianza*), for a given value x of a character X, as:

$$s_x = \frac{A_x T - C_x L_x}{\sqrt{C_x(T - C_x)L_x(T - L_x)}} \qquad [1]$$

The index proposed derives from the geometric means between each contingency relative to its maximum, which is different according to spouse's gender, i.e:

$$\frac{A_x - \dfrac{C_x L_x}{T}}{C_x(1 - \dfrac{C_x}{T})} \quad \text{and} \quad \frac{A_x - \dfrac{C_x L_x}{T}}{L_x(1 - \dfrac{L_x}{T})} \qquad [2]$$

Each contingency expresses the difference between the observed frequency of homagamy marriages A_x and the one corresponding to the hypothesis of independency that is $C_x L_x/T$.

The index of homogamy in [1] is such that, if $s_x = 1$, there is perfect homogamy concerning value x (indeed $A_x = L_x = C_x$), while if $s_x = 0$ there is independence as ($A_x = C_x L_x/T$) and, finally $s_x < 0$ means heterogamy ($A_x < C_x L_x/T$).

Gini proposed also a global index of homogamy for the character X, that synthesizes the index s_x for the single values $x_1, x_2, \ldots, x_i$:

$$s = \frac{T \sum A_x - \sum (L_x C_x)}{\sqrt{(T^2 - \sum L_x^2)(T^2 - \sum C_x^2)}} \qquad [3]$$

Briefly, Gini's index describes a *de facto* situation of the similarity between the spouses as a result of a selection process and based on couples that eventually formed. In case of perfect homogamy all marriages are distributed along the diagonal and the relations $T = \sum_x A_x$ and $L_x = C_x = A_x$ hold. In this case the numerator of [3] becomes $T^2 - \sum_x A_x^2$ and the denominator fulfills $\sqrt{(T^2 - \sum_x A_x^2)(T^2 - \sum_x A_x^2)}$, therefore we have $s = 1$.

We applied the Gini's educational homogamy index to different couple typologies: first order marriages (where both partners have never married),

higher order marriages (where at least one of the partners had previous marital unions), transnational marriages (where at least one of the partners is foreigner). We also include the analysis of consensual unions of never married partners. Moreover, whenever possible, we try to evaluate time and geographical differences. Our analysis takes into account the two-way distribution of partners at marriage or union by level of education.

4. RESULTS

4.1 *Trends in educational first marriages homogamy*

Before commenting on the Gini's educational homogamy index results, let us observe the most recent classification of marriages by education of the spouses taking a gender perspective (Table 1).

Table 1 – *First marriages by level of education and difference to the partner's level of education: year 2013*

Level of education of the spouse	Brides				Grooms			
	Groom more educated	Both equally educated	Bride more educated	Total bride	Groom more educated	Both equally educated	Bride more educated	Total groom
University	0.0	56.4	43.6	100.0	22.9	77.1	0.0	100.0
Secondary school	8.6	70.1	21.3	100.0	8.0	69.6	22.4	100.0
Up to compulsory school	18.6	81.4	0.0	100.0	0.0	62.5	37.5	100.0
Total	8.6	68.9	22.5	100.0	8.6	68.9	22.5	100.0

Source: Istat, Marriages register.

The share of educationally homogamous marriages, out of the total number of marriages, has been steadily declining from 83.5% in 1973 to 68.9% in 2013, reaching a minimum in 2003 (64.9%). In the same time, the situation where brides are more educated than grooms exceeds that of grooms more educated than brides; in the past, the gender balance was reversed, since, tipically, men at first marriage were more educated than women (see further section 4.5). As stated, this new phenomenon reflects the changes occurred in the marriage market, namely the proportion of people having attained a given level of education and available to match with a partner. This is an effect of the increasing human capital of younger generations, and, above all, of the female population: brides at first marriage with university degree have increased from 2.8% in 1973 to 29.6% in 2013, while grooms have passed from 4.6% to 21.6%.

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Therefore, the increased participation of women in the educational system and the consequent attainment of tertiary degree have provided men with increased opportunities to meet and marry highly educated women; this has eased homogamous marriages at the top of the educational ladder and diminished those at the bottom with low education (Figure 1).

Figure 1 – *First marriages with a same educated spouse by sex and level of education: years 1973, 1983, 1993, 2003 and 2013 (per 100 grooms and brides at their first marriage)*

University

Secondary school

Up to compulsory

■ Males   ■ Females
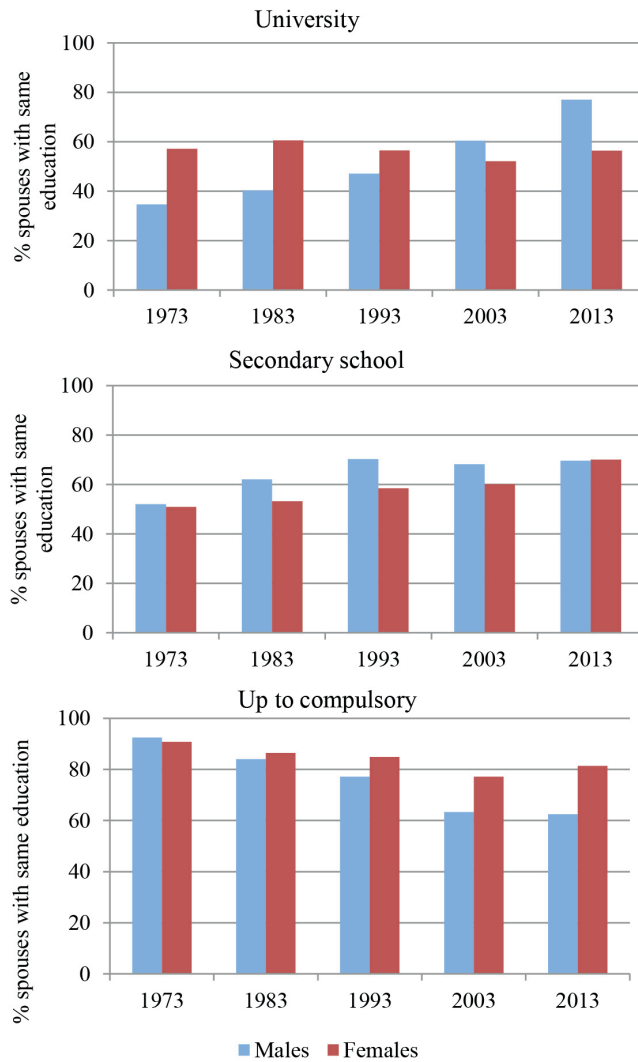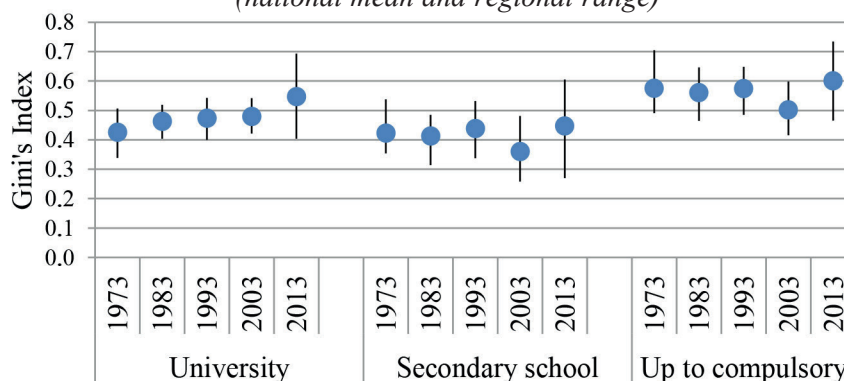
Source: Istat, Marriages register.

Changes in the level of homogamy are different for brides and grooms. Indeed, the proportion of highly educated men who marry same educated women has more than doubled (from 34.7% in 1973 to 77.1% in 2013) and it has increased for men with secondary education (from 52.0% in 1973 to 69.6% in 2013). On the contrary, the proportion of grooms with at most a compulsory level of education marrying homogamously has declined from 92.5% to 62.5%.

Somewhat differently, the proportion of women with a university degree who marry same educated men is around 60% and remained stable throughout the considered period, while the percentage is continuosly increasing among those with secondary education (from 51.0% to 70.1%) and decreasing among the lowest educated women who always show the highest percentage of homogamous marriages (from 90.8% to 81.4%).

Overall, looking at men and women separately, homogamy seems to be inversely related to education for women: the higher the level of education, the lower the level of homogamy. On the contrary, among men it apparently increases with education. In a marriage market perspective, men take advantage of the increasing female education more than women and the level of downward heterogamy, i.e. getting married with a less educated partner, is more frequent among brides than among grooms. We come back on this later (see section 4.5).

Gini's index of educational homogamy pursues a couple perspective, that is it applies on the crosstabulation of marriages by level of education of the two partners, somewhat combining the two-gender trends previously examined. From Figure 2 it emerges that between 1973 and 1993 the tendency to marry a partner with the same level of education has continuously increased whichever the level of education; after a decrease in homogamy at the beginning of the new Millennium, for primary and secondary level, the 2013 marriage cohort is characterized by an increase in Gini's homogamy. The rise is particularly relevant for the most educated spouses with a university degree. This trend confirms what already hypothesized by Bandettini and found in previous studies (see for example, De Rose and Rufo, 1993): the level of homogamy decreases when the number of marriages increases - as it happened in Italy between 2000 and 2005 - while it increases when nuptiality falls down as in the last decade. During nuptiality crisis the amount of marriages between younger partners - who proved to be the less homogamous in any era - decreases and this positively influences the assortative mating among adults (Bandettini, 1950).

Figure 2 – *Gini's Index of educational homogamy by year and level of education: years 1973, 1983, 1993, 2003 and 2013 (national mean and regional range)*

Source: Istat, Marriages register.

In 2013, Gini's index appears stronger at the extremes of the educational scale (0.601 for spouses up to compulsory school, 0.447 for those with secondary school diploma and 0.547 for those with university degree - Table 2). This is an expected result: groups at the top and at the bottom of the educational hierarchy are more closed than groups in the middle (Kalmijn, 1998). Individuals with low level of education are, evidently, less attractive in the marriage market, while at the highest level the school itself acts as a local marriage market (Mare, 1991). Thus, at the highest level of education Gini's index reflects a by-product of the prolonged permanence in the education system that acts promoting homogamous assortative mating.

The increasing educational homogamy is accompanied by rising regional variability (Figures 3 and 4). In 1973, in the Southern regions spouses shared more often the same educational background, especially if this was low and medium; on the contrary, more educated spouses, numerically lower at that time, were often a bit more heterogenous and, for them, the tendency to marry a similar partner was higher than average in small regions. Sicily is among the regions with the highest level of homogamy. Between 1973 and 2013, Gini's index increases, together with a rise in regional variability, regardless of the level of education. In 2013, homogamy is generally higher in the South and in the Centre of Italy. Campania is the region where the Gini's homogamy index shows the maximum values in the country: this region is characterized by strong educational endogamy, i.e. spouses tend to choose a partner with the same level of education more than in any other region. Among the northern regions, only Friuli-Venezia Giulia presents levels of homogamy higher than the national-average.

Table 2 –*Gini's homogamy index for first marriages, higher order marriages and mixed marriages by region of celebration and level of education of the spouses: year 2013*

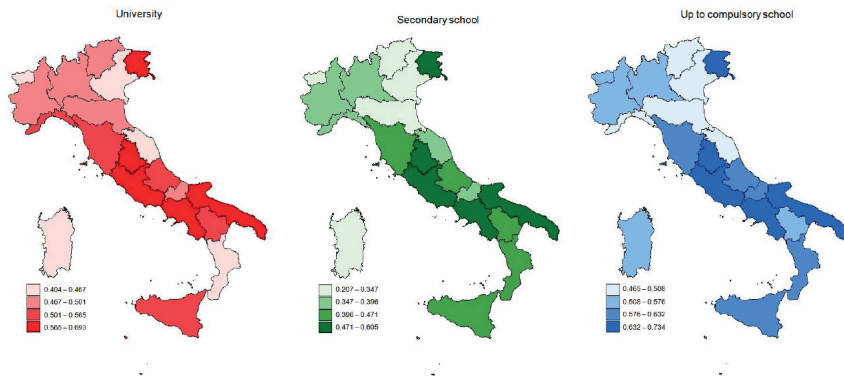| Region	First marriages			Higher order marriages			Mixed marriages		
	Univer-sity	Secon-dary school	Up to compul-sory school	Univer-sity	Secon-dary school	Up to compul-sory school	Univer-sity	Secon-dary school	Up to compul-sory school
ITALY	0.547	0.447	0.601	0.474	0.388	0.525	0.561	0.476	0.581
Piemonte	0.501	0.396	0.523	0.420	0.361	0.474	0.496	0.376	0.500
Valle d'Aosta	0.467	0.270	0.528	0.468	0.277	0.384	0.482	0.227	0.457
Lombardia	0.492	0.391	0.540	0.441	0.347	0.480	0.510	0.351	0.531
Trentino-Alto Adige	0.476	0.326	0.465	0.283	0.188	0.373	0.496	0.410	0.518
Veneto	0.456	0.334	0.468	0.418	0.336	0.464	0.474	0.431	0.581
Friuli-Venezia G.	0.615	0.493	0.644	0.550	0.496	0.656	0.525	0.459	0.670
Liguria	0.503	0.348	0.466	0.400	0.310	0.442	0.539	0.399	0.474
Emilia-Romagna	0.477	0.347	0.470	0.322	0.247	0.417	0.430	0.339	0.485
Toscana	0.553	0.417	0.594	0.555	0.382	0.480	0.603	0.366	0.560
Umbria	0.580	0.514	0.643	0.408	0.348	0.458	0.593	0.539	0.701
Marche	0.440	0.393	0.508	0.367	0.330	0.404	0.441	0.391	0.525
Lazio	0.612	0.515	0.682	0.593	0.537	0.709	0.644	0.700	0.672
Abruzzo	0.533	0.426	0.586	0.526	0.531	0.691	0.483	0.271	0.521
Molise	0.483	0.353	0.595	0.563	0.478	0.348	0.485	0.436	0.387
Campania	0.693	0.605	0.734	0.630	0.623	0.635	0.798	0.715	0.713
Puglia	0.568	0.476	0.643	0.418	0.381	0.542	0.594	0.530	0.657
Basilicata	0.565	0.396	0.576	0.328	0.069	0.514	0.543	0.328	0.519
Calabria	0.404	0.465	0.626	0.298	0.428	0.606	0.232	0.412	0.440
Sicilia	0.559	0.471	0.632	0.491	0.452	0.585	0.534	0.497	0.624
Sardegna	0.467	0.342	0.532	0.377	0.298	0.458	0.475	0.420	0.576

Source: Istat, Marriages register.

Figure 3 – *Gini's Index of educational homogamy by region and level of education: year 1973*
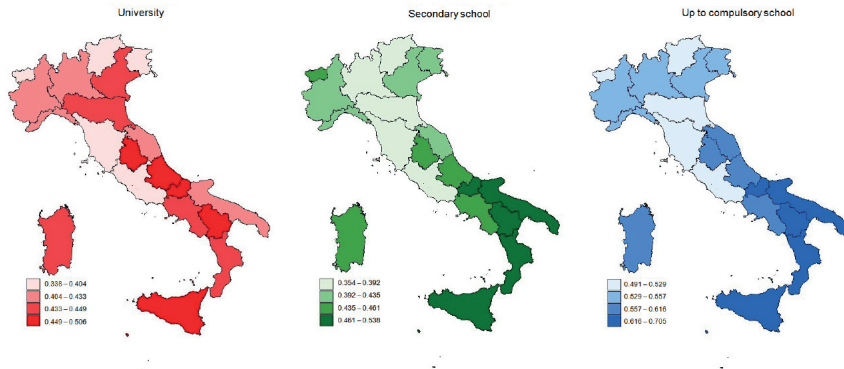
Source: Istat, Marriages register.

Figure 4 – *Gini's Index of educational homogamy by region and level of education: year 2013*
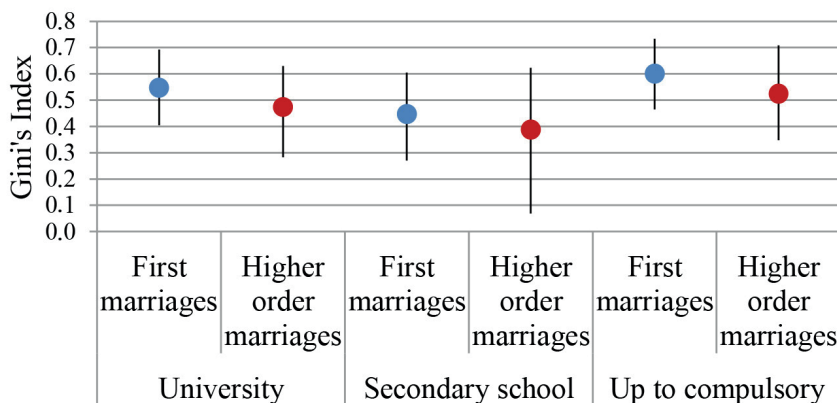

Source: Istat, Marriages register.

4.2   *Higher order marriages homogamy*

The higher order marriages are considered emerging forms of family formation since they often result from union dissolutions. The trend in higher order marriages has steadily risen up to 2008, when it has slowed down.

However, the reduction observed since then in higher order marriages (-10%, reaching 30,638 marriages in 2014) is lower than the reduction in first marriages (-25%, 159,127 marriages in 2014). Thus the incidence of the former has increased. The composition of higher order marriages has also deeply changed: between age 15 and 49 the proportion of widows among grooms and, to a lesser extent, brides has virtually disappeared (from one third and one sixth, respectively, in 1973 to about 2% in 2013). At the same time the share of divorced brides marrying a never married partner has increased sensibly (from 19.3% in 1973 to 40.0% in 2013), catching up the analogous share of divorced grooms marrying never married women (from 35.8% to 38.5%).

Marriage selection plays a much relevant role at first marriage, thus Gini's index shows higher homogamy than in the subsequent marriages (Figure 5). However, preferences for a partner with the same level of education can be observed also in subsequent marriages but at generally lower levels; also the U-shaped pattern by education is similar to what emerged for first marriages. Moreover, the time series of higher order homogamy by level of education follows the same shape as in Figure 2. The geographical differences in educational homogamy among the higher order marriages result even more important than in first marriages, suggesting a greater variability among regions, regardless of the level of education. As for first marriages, also for higher order marriages we find higher level of homogamy in Southern regions, in Lazio among the Central ones and in Friuli-Venezia Giulia among the Northern ones.

Figure 5 – *Gini's Index of educational homogamy by level of education and marriage order: year 2013 (national mean and regional range)*
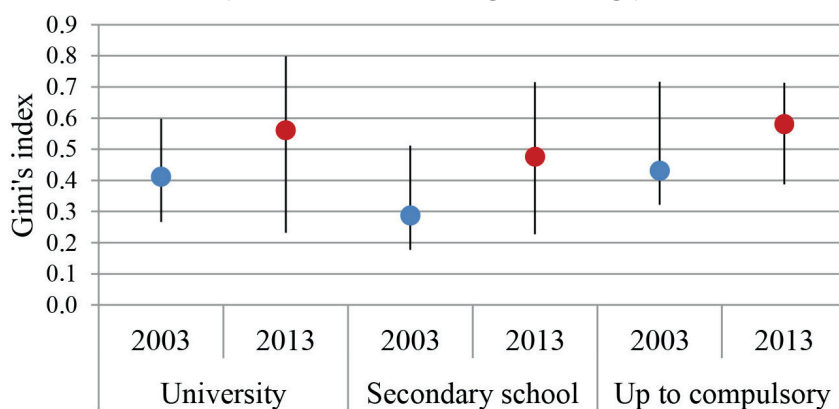

Source: Istat, Marriages register.

4.3 *Transnational marriages*

Since the beginning of the 1990s Italy has become a country of destination for relevant international migration flows. The proportion of marriages where at least one of the partners is not Italian is quite limited, despite its rapid increase over time: marriages with at least a foreign partner have risen from about 3% in 1992 to 15% in 2008 (37 thousands marriages) and have declined in the following period 2009-2010[2] (Istat, 2012). In 2013, the share of marriages between age 15 and 49 years with a foreign partner has risen up to 12%.

Intermarriage is one of the most relevant aspect of integration in a society. The Gini's educational homogamy index in Italy has increased from 2003 and 2013 for transnational marriages. However, the pattern by level of education is the same as the one observed for both first and higher order marriages. Moreover, it is characterized by higher levels and greater geographical variability (Figure 6).

Figure 6 – *Gini's Index of educational homogamy for transnational marriages by level of education: years 2003, 2013 (national mean and regional range)*
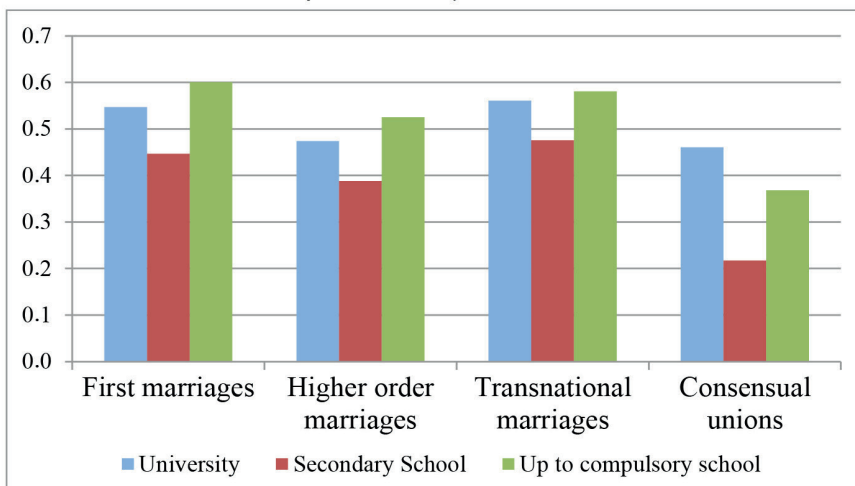

Source: Istat, Marriages register.

Finally, also in the case of transnational marriages homogamy is slightly higher among the low educated in both 2003 and 2013, with the exception of few regions (i.e. Liguria, Toscana, Campania, Molise and Basilicata, where homogamy is higher among highly educated partners). Here again Campania reaches the maximum levels of homogamy, regardless of the educational degree, confirming the tendency to a strong endogamy of the region.

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[2] This decline is due to the introduction of law 94/2009 (art.1, comma 15), according to which "a foreigner who wishes to marry in Italy has to show a *nulla osta* (marriage certificate) and '*a document certifying the regularity of stay in the Italian territory*'". The Italian Constitutional Court (judgment n. 245/2011) declared illegitimate the above requirement because the general prohibition of celebrating the wedding by a foreigner residing in Italy is a tool that disproportionately, unreasonably infringes the fundamental right of every individual to get married.

4.4   *Consensual unions*

The study of homogamy has always focused on marital unions, especially first marriages. Contemporary societies are characterized by an increasing spread of non-marital unions, often choosen as a prelude or an alternative to marriage. In Italy, consensual unions of never married partners aged 15-49 years represent 8.9% of overall Italian couples in 2013-14, but they were less than 1% at the beginning of the 1990s and 3% in 2000-2001 (Fraboni and Meli, 2015). In this work we measure homogamy in consensual unions of never married partners applying the Gini's index also to this couple typology. Focusing on the cohort of unions of never married partners aged 15-49 years that started the cohabitation between 2000 and 2009, it is possible to apply the Gini's index in the same way as in the case of marriages. The propensity to marry a partner with similar educational background among cohabitant unions follows quite a different pattern than the ones observed both in first or subsequent marriages and in transnational marriages. First of all, the level of educational homogamy in consensual unions is generally lower than the corresponding level in any type of previously considered marriage. Moreover, contrary to the pattern of educational homogamy emerged up to now for marriages, the analysis of consensual unions shows that Gini's index is higher among highly educated partners (Figure 7). This means that, on average, consensual unions are less homogamous than marital unions; moreover, the most educated people in consensual unions tend to prefer a partner with the same education relatively more often than low educated people do. Unfortunately, the limited number of cases does not allow going into a deeper analysis of homogamy for this type of union.

Figure 7 – *Gini's Index of educational homogamy by type of union and level of education: year 2013*
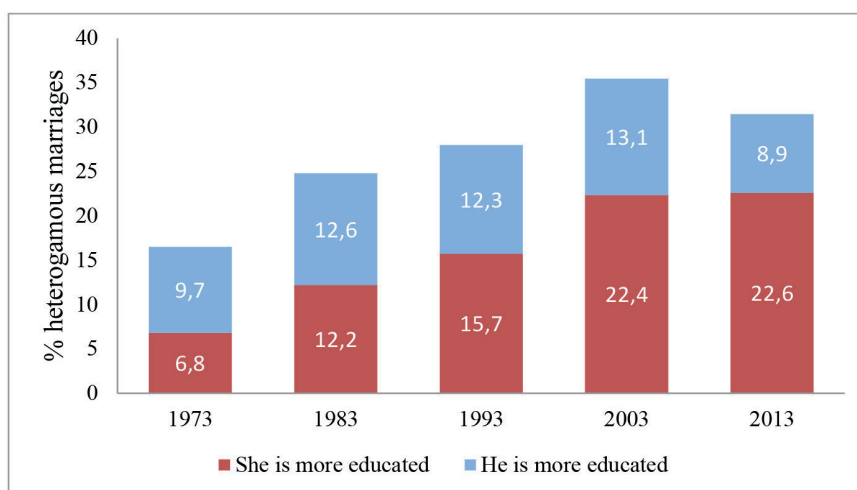

Source: Istat, Marriages register.

4.5   *Heterogamy*

As already stated, Gini's index focuses on similarities, but sometimes it could be interesting to concentrate on differences between partners. Indeed, this is the case of the contemporary marriage market which is affected by the reversal of the educational gender gap due to the increase of the female educational level. The share of homogamous first marriages described in section 4.1 has been accompanied by an increase in heterogamy that, from 1973 to 2013, doubled and changed direction (Figure 8). Traditionally, the educational unbalance was in favour of couples where grooms were more educated than brides. Between 1973 and 2013, a reversal of this unbalance has been observed. Particularly, couples where women are more educated than their partners covered 6.9% of all marriages in 1973, but this proportion reaches 22.5% in 2013, overcoming that of men more educated than their women (from 9.6% to 8.6%).

Figure 8 – *Educational heterogamy by year and typology: years 1973,
1983, 1993, 2003 and 2013 (per 100 first marriages)*

Source: Istat, Marriages register.

As for first marriages, also higher order marriages follow the same pattern of heterogamy, i.e heterogamy is increasing, especially for women. Moreover, the level of heterogamy for women is particularly high if they got a university degree (in 2013, in more than 50% of these cases brides marry downwardly, i.e. a less educated partner) or medium education (32%). The level of male heterogamy in higher order marriages is higher than the level of male heterogamy in first marriages (+2/+3 percentage points).

5.   DISCUSSION

Marriage patterns reveal how a society is changing. Namely, intermarriage can be used as a social indicator of how much close the different social groups are. Education plays a fondumental role as it is a strategic characteristic for defining a group membership.

In this study, we addressed the topic of educational assortative mating in Italy in the last forty years by applying the quite neglected index of homogamy, originally proposed by Gini in 1915. The index has been used not only in the case of first marriages, but it was extended in order to take into account the many changes occurred in partnership patterns: the increase in higher order marriages due to divorce trend, the increase in transnational marriages - related to migration trend - and the spread of consensual unions.

Overall, it emerges that educational homogamy at first marriage is increasing, confirming the prevailing preferences for a partner sharing the same cultural background, values and likes. The most evident increase has been observed at the highest level of education. This result can be read as a by-product of the prolonged permanence of the younger generation in the educational system, which favours the meeting between pairs just at the age of partnership formation.

In terms of gender differences, we notice quite important trends due to the increased educational level attained by women, which apparently favours men more than women. Indeed, among men homogamy increases with education, since in the marriage market a higher number of highly educated women are available. Instead, women with higher level of education have to settle for a heterogamous (downward) marriage more often than men.

Educational homogamy is lower for higher order marriages than for first marriages; also consensual unions between never married partners show overall lower levels of educational homogamy, although it is high at the upper level of schooling hierarchy, contrary to what emerged in the other unions.

As concerns the transnational marriages - the ones where at least one spouse is of foreign origin - the level of educational homogamy increased throughout time as well. Interestingly, the most recent data (2013) show practically no noticeable differences with respect to the first marriage patterns if not a slightly higher level of homogamy at the highest educational grade. Even in this respect, assortative mating can be used as an interesting indicator of integration of the immigrant population in the hosting society.

The long trend of increase in educational homogamy in Italy has been accompanied by territorial differences, which become even more important throughout time. Overall, educational homogamy proves to be stronger in the Southern and Central regions.

The choice of the Gini's index also deserves further discussion. Our aim was preminently a descriptive one, as it is the focus of the great majority of

the empirical literature in this field of study (Kalmijn, 1998). This is quite a straightforward consequence of the kind of available information. Indeed, statistics on already celebrated marriages and already formed consensual unions by characteristics of both partners are the most common sources of data for studying assortative mating.

The broadest measure of homogamy can be obtained summing up the frequencies of marriages between grooms and brides of same category - say, same level of education - out of the total number of marriages. This is equivalent to consider only the frequencies of marriages observed along the diagonal of the two-way table by grooms and brides education. A slightly more detailed indicator of homogamy could be defined by gender, using the information on each marginal distributions of the above mentioned two-way table.

The main advantage of using Gini's index of homogamy is that it uses at the same time the diagonal and the marginals of the two-way table by calculating the contingencies both for males and females and then reconcilying the two measures in a synthetic index, based on the geometric mean of both components.

Another advantage of the index originally proposed by Gini in order to illustrate the tendency to choose a partner with similar characteristics in marriage is in that it is based on already formed couples. Differently from other measures like those based on the 'attraction' (Benini, 1901), which need information about the pool of eligible populations - for instance the number of unmarried female and male population in a given age range and education - Gini's index deals with the objective situation between partners as it is observed at marriage or union formation. This provides to some extent a greater flexibility and adaptability of the measure allowing to apply it to the case of consensual unions too.

A drawback of this kind of study is that it does not provide any possibility to explore the mechanisms that generate the patterns of marriage or couple formation, nor to address the effect of values and preferences on partner selection process. This is, however, beyond the scope of the present work.

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