

**Education and childlessness: The
relationship between educational
field, educational level and
childlessness among Greek women
born in 1955-1959**

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The aims of the study

- Underline the importance of educational field in the relationship between education and fertility
- Investigate the Greek patterns of childlessness by educational field, in comparison to studies referring to other countries, in particular Austria and Sweden (Neyer and Hoem 2008; Hoem, Neyer and Andersson 2006)

Background

- A lot of interest in the relationship between education and permanent childlessness since low fertility levels persist and the share of women among individuals with a higher education is growing.
- Fertility patterns show that very low fertility has become a rather structural characteristic of the demographic regime in Greece. The combination of a later timing with less intensity, for successive cohorts has led to very low levels in the total fertility rate. For instance, at the same age (<33) the first birth probability of women born in the late 1950's was 82.3 while the corresponding figure for those born ten year later was only 72.3 (Rendall et al., 2009).
- In a time span of 10 years, the proportion of women with tertiary education has increased from 20.3% (1955-59 cohorts) to 33% for those born over 1965-69 (Rendall et al., 2009).

Theoretical framework (1)

The negative relationship between educational level and fertility is one of the most common perceptions. Several explanations have been given for the fact that high educational attainment is combined with high permanent childlessness and low fertility levels.

- Economic approaches emphasize the ideas that highly educated women have to face the high opportunity costs of childbearing as well as the high direct costs of children, which lead to low fertility (Becker 1980; Cigno 1991).
- Cultural issues also offer explanations for fertility diversities among women with different educational attainment. It is argued that more education leads to a greater range of possible life styles and other choices and hence, reduces preference for children (Lesthaeghe 1983; van de Kaa 1996; Surkyn and Lesthaeghe 2004).

Theoretical framework (2)

On the whole, most of the studies examining the association between educational attainment and fertility focus on the level of education and its impact on fertility and at the same time, educational attainment is perceived as an individual attribute and is used “as a proxy reflecting a person’s human, economic, cultural and, to some extent, biological capital” (Hoem, Neyer and Andersson 2006).

Hoem, Neyer and Andersson (2006a) argue that childbearing behavior is closely related to two “new” dimensions of education, namely,

- the field of education and
- the institutional aspects of the educational system.

Theoretical framework (3)

According to them, the relationship between childbearing behavior and educational attainment is shaped through:

- the educational system's structure and flexibility
- the gendered pattern of educational field
- the link between education and the labor market through job security, job content and job prospects, skill depreciation and gender dominance on the job for different educational groups, and
- the social norms and preferences linked to education and childbearing

Data and methods (1)

Individual-level data from the Greek census of 2001 are used in this study. The 1955-1959 cohort comprises about 350,000 women.

The 2001 census contains information on:

- Fertility (number of children ever born)
- Educational level (the highest level attained by individuals)
- Educational field (the school or department where individuals have acquired their qualification)

Data and methods (2)

- The 13 different educational levels were classified in 5 categories, namely primary, middle, highschool, tertiary low and tertiary high education (see below).
- Educational field is only available for women with tertiary low or tertiary high educational level.
- The 1955-1959 cohort comprises about 60,000 women:
For about 3,000 (5%) of them the educational field is unknown and for about 700 (1.2%) the information was omitted since it refers to women in small odd groups
- Information on educational fields derives from 452 schools-departments (212 in tertiary high and 241 in tertiary low education).

Data and methods (3)

Using the international standard classification of education as well as similar studies regarding Austria and Sweden (Neyer and Hoem 2008; Hoem, Neyer, and Andersson 2006)

- Educational fields were re-coded into some 50 groups and were further summarized into seven main educational fields.
- Highschool teachers were estimated by using the 2001 census data and combining educational fields with employment status. That category comprises women with a qualification in humanities, theology, natural sciences, social sciences and economics and business.

Main Results (1)

- Women trained to be teachers or for a health profession have lower childlessness than most others on each educational level. They often have lower childlessness than women educated in other fields at a lower educational level (Figure 1).
- For example pre-school teachers have lower childlessness (9.3%) than women with middle (13.5%), high school (12.4%) or even primary education (10%). High school teachers, who have a university degree have lower childlessness (16.3%) than women with a lower educational level and trained in optics (17.6%), social work (18.7%) or tourism (20%).

Main Results (2)

- Likewise, women educated as midwives (12.6%) or nurses (13.5%) have lower childlessness than most others at the same educational level. 21.6% of female physicians are permanently childless, a lower proportion compared to women with shorter educational enrolment, trained in various fields such as engineering (22.8%), law (23.3%) or sales, marketing and advertising (26.3%).
- Women trained in art and theology have a very high percentage of childlessness (around 30%). This is also the case for those who are educated as teachers. Childlessness is also higher among women who have an education such as journalist (28.4%), librarian (24.7%) or psychologist (25.4%).

Main Results (3)

- Proportion childless is increasing among women in the same field but at different levels of education. For instance, women educated in agriculture (11.3%) and veterinary (13.6) at low tertiary level have a lower proportion of childlessness than those in the same educational line who have a university degree (17.3% and 23.4% respectively). The same pattern is also observed for women trained in business and administration, namely accounting and taxation (13.1% vs. 14.2%), business administration (14.4% vs. 15.1%), management and administration (13.5% vs. 18.3%), sales (16.3% vs. 26.3%), as well as in technical sciences, namely engineering (15.3% vs. 22.8%), and architecture and building (15.7% vs. 23.3%)

Main Results (4)

Outliers -1: Women with high proportions of childlessness (more than a quarter)

Women educated in art and theology have usually a high proportion of permanent childlessness. This holds also for those trained as art teachers. At the same time theology highschool teachers have the highest proportion childless among highschool teachers (between 30% and 70% higher childlessness than other highschool teachers). These observations are likely to indicate a selection process for women educated in art and theology.

Main Results (5)

Outliers -2: Women that never marry

Despite the fact that in recent years in Greece the proportion of births out of marriage is growing, for the cohort 1955-59, being married constituted the “necessary step” before pregnancy. We have combined the per cent childless in our educational groups with the per cent never married (Figure 2). We can observe a rather perfect relationship between both, since the proportion childless is increasing with the percentage of women never married.

Main Results (6)

Outliers -3: Women with research degrees

Women with research degrees tend to have high fractions of proportions childless and to that extent they appear systematically different from other women. Both economic and culture-based theories lead us to expect particularly high fractions childless among these most highly educated women.

Figure 1. Childlessness and Education - Greek Women Born 1955-59

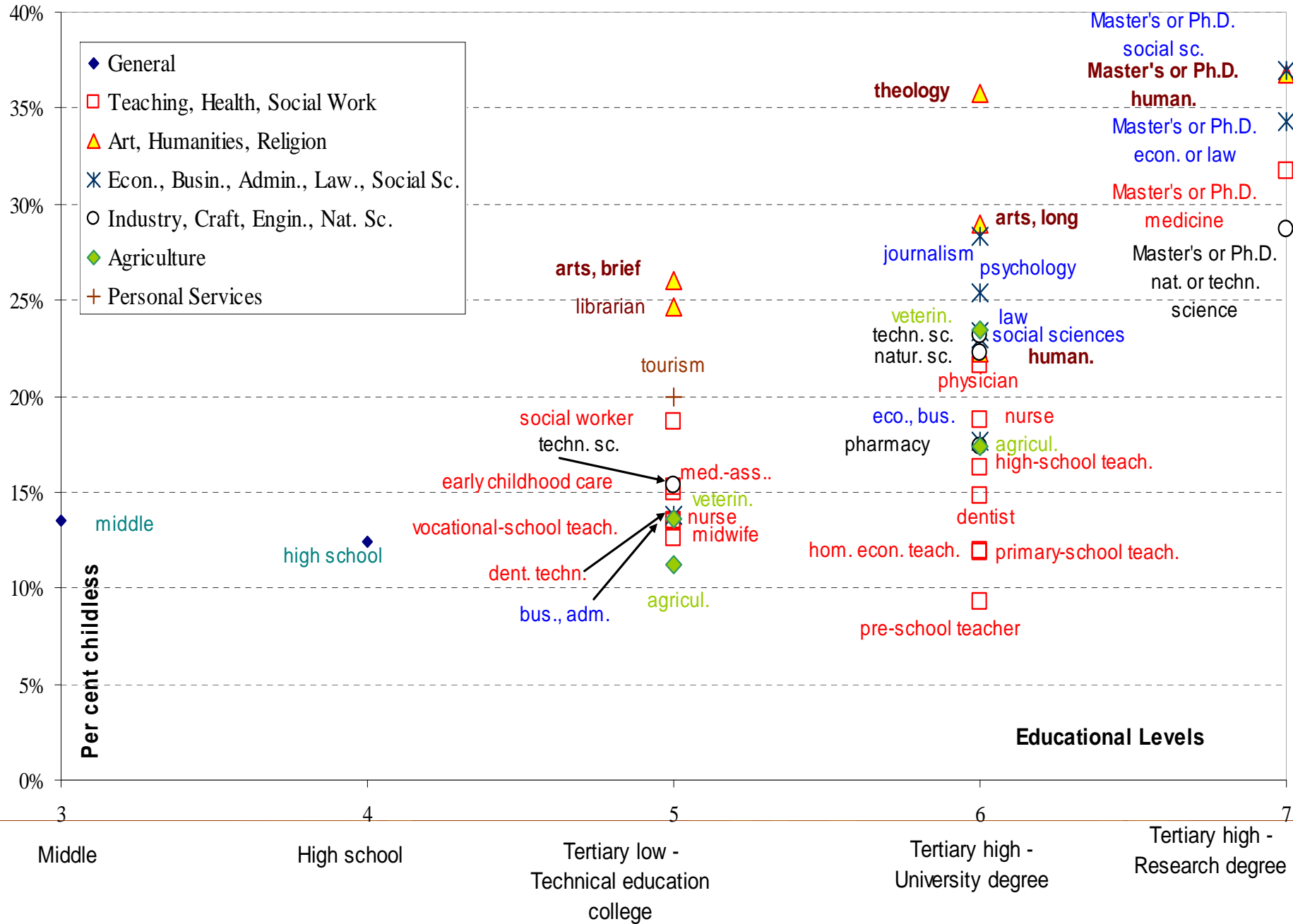
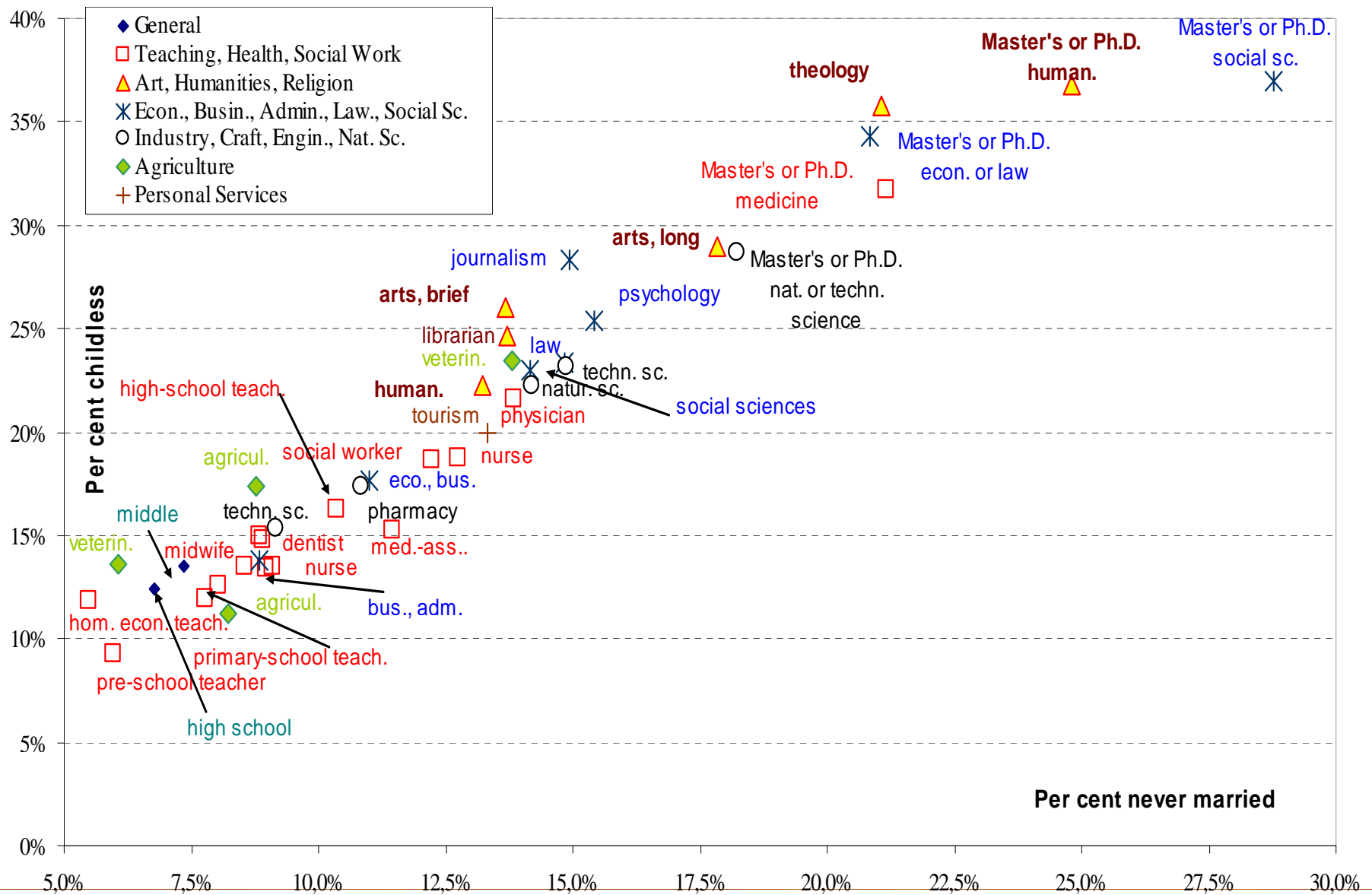
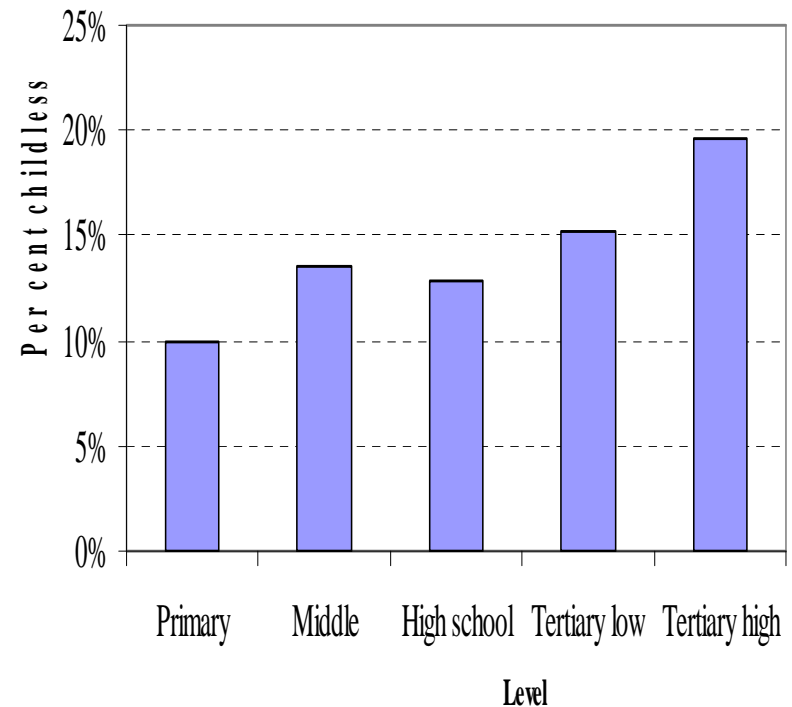


Figure 2. Per cent permanently childless vs. never married; Greek women born in 1955-59.



- Low proportion of childlessness among women with primary education
- Virtually no difference in childlessness levels between women with a middle, high school and tertiary low education
- Pronounced discrepancy in childlessness between highly educated women and those with less education

Figure 3. Childlessness by level of education



Note:

primary: basic school (up to age 15)

middle: vocational middle school

high school: general or vocational high school

tertiary low: vocational college

tertiary high: university and research degrees

Reflections on our findings (1)

The gender structure of the educational system: Is a high share of women in an educational line combined with lower childlessness?

This association is likely to be convincing for women educated in teaching and health where women make up the vast majority of graduates in those educational fields (in some cases more than 90%).

However, below this level, a high share of women in an educational field does not lead systematically to lower childlessness.

Reflections on our findings (2)

Education and the labor market

- Employment in public sector: Women educated in teaching and health are employed in the area in which they are trained; they work in the public sector which offers greater employment security. The role of public sector is likely to be very important even for educational lines with little occupation specificity, namely humanities and social sciences.

Reflections on our findings (3)

- Employment and male-dominated lines of education: This mainly comprises education in engineering, natural sciences and agriculture. Women educated in these fields are expected to face a longer job-search process and lower possibilities to maintain their employment than in other fields of education. Nevertheless, these women, in particular those with a low tertiary education, have low levels of childlessness.

Discussion – further research (1)

There can be no doubt that educational field can serve as an indicator of a woman's potential reproductive behavior.

However, in the case of Greece, educational level remains a very important element determining women's fertility behavior.

This is likely to reflect the main characteristics of the Greek educational system, namely

- the great emphasis on general than on technical education
- the low possibilities of changes in educational choices
- the low opportunities to re-enter, upgrade or complement educational attainment

Discussion – further research (2)

It is also likely to reflect the importance of public sector as the main “employer” for Greek tertiary educated women and mainly those with high tertiary education, very often, irrespectively of their educational orientation. In other words, further research on the relationship between educational field, educational level and employment prospects in the public sector is needed in order to better analyze the association between education and fertility behavior in Greece.