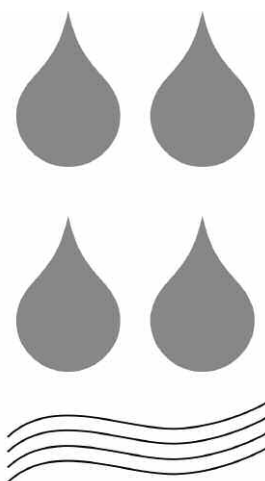


*Competitive Results in Secondary
Education in Rural Spain.
A Gender Perspective Analysis*



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Competitive Results in Secondary Education in Rural Spain. A Gender Perspective Analysis

Highlights:

1. Competency results in smaller rural communities are better than in urban centers.
2. The average values of competency results tend to be higher in private centres than in public ones.
3. The uniqueness of the centre does not clearly determine differences in competency results.
4. Generally, women achieve better results than men in linguistic competence.
5. Except in rural areas, men outperform women in science and mathematics.

Abstract: In recent decades, Spain has experienced a drastic population decline in rural areas due to migratory flows towards cities, which is more pronounced among women. The provision of essential services, such as education, is crucial to combat depopulation and improve the social and territorial cohesion of rural areas. Although equal opportunities for access to quality education are supported by both national and international legislation, the reality shows some educational indicators with lower ratings in rural areas. This study focuses on analysing the differences in PISA competencies between rural and urban areas in Spain, considering different degrees of rurality and incorporating a gender perspective. The main conclusions reveal gender differences in favour of women in linguistic competence in all geographical categories. For mathematical and scientific competencies, men tend to achieve better results, except for areas with the highest degree of rurality, the villages. Other moderating factors of the results complement the analysis.

Keywords: Academic outcomes, rural, urban, skills, PISA, quality of education.

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Extended abstract

1. Introduction and justification

In recent decades, Spain has experienced a gradual population shift from rural areas to cities, primarily due to a female exodus. Approximately 90% of Spanish municipalities have fewer than 10,000 inhabitants, and only 16% of the population resided in rural areas in 2019. This depopulation has led to a reduction in local and regional services, widening the gap between rural and urban areas in terms of access to essential services such as education, healthcare, or social services.

European Union legislation and the Spanish Constitution emphasize the need to reduce disparities between rural and urban areas, with a focus on providing quality public services to improve the socioeconomic situation of the rural population, with special attention to women and youth. To maintain the rural population, it is essential to have quality educational services at all stages of development. In this regard, the greatest challenges arise in secondary education, where only 50% of the population has access to a secondary school in their municipality of residence. This limits the continuity of education and leads to early school dropout rates.

The inclusion of a gender perspective in education research in rural areas is essential for several reasons. Firstly, because most migration flows are driven by women. Secondly, gender bias and stereotypes exert a significant influence on the educational dropout of rural women worldwide. These processes are fuelled by socio-cultural patterns, such as the obligation to assume domestic roles, the economic preference for sons over daughters, the danger that public spaces pose to women, and more, which make rural women less likely to be prioritized for education. Finally, gender is considered a factor that can explain differences in educational outcomes, although there is no consensus on its impact in the specialized literature.

2. Objectives, methodology and sources, areas of study

The main objective of this research is to analyse the differences in educational outcomes between rural and urban areas in Spain, considering the gender perspective

and different degrees of rurality in the regions. This work contributes to the literature that seeks to examine the educational gaps between rural and urban schools, which, in the case of Spain, is limited. It raises a fundamental discussion about the social and equality of opportunity consequences, aligning with the Sustainable Development Goals, which advocate for education as a priority tool for sustainable development, promoting inclusive and equitable opportunities for both men and women.

The focus of this research is on the compulsory secondary education stage. Firstly, because in rural areas, early childhood and primary education seem to have addressed the challenges well through the implementation of Joint Rural Schools (CRA in Spanish, *Colegio Rural Agrupado*), which do not cover the secondary education stage. Additionally, this stage is crucial for the educational development of students to acquire basic competencies necessary for higher education and entering the job market in case they decide to discontinue their studies. The level of competency acquisition among students can be assessed through various indicators, including those derived from diagnostic tests at regional, national, and international levels. In this context, the PISA report is considered the primary competency assessment for secondary education, enabling international comparisons.

This research follows an empirical-analytical approach, conducting a non-experimental ex-post facto study with a descriptive-explanatory purpose. The target variables (PISA competency scores) are quantitative and allow for descriptive and inferential statistical analysis. To provide statistically significant results for the comparison between rural and urban areas, men and women, and other variables of interest, the Kolmogorov-Smirnov test was first conducted to determine if the distributions of the target variables followed a normal distribution, thus enabling the use of parametric tests for comparing means.

The database used corresponds to PISA 2015 for Spain. The student sample contains information from 3.332 boys and 3.404 girls from across the national territory and includes data representative of different degrees of rurality: village, small town, intermediate town, city, and large city. The study also collects other variables of interest, such as school ownership and the presence of one or more schools in the municipality.

3. Results

The results are quite positive for rural areas. In general, smaller municipalities, including villages, exhibit a very different behaviour compared to the rest and are sim-

ilar to large cities. They achieve higher scores in PISA competencies compared to the national average and other urban areas, except for large cities. Linguistic competency approaches the theoretical value of 500 points, possibly due to the focused attention on this area in recent educational laws.

The ownership of the educational institution is a relevant factor, with private schools achieving better results than public ones in all disciplines, especially in rural areas and large cities. The uniqueness of a school in areas with limited alternative options can lead to better outcomes, except in the case of villages and large cities, where this uniqueness benefits the results.

In terms of gender gaps, women excel over men in linguistic skills, while men outperform women in scientific and mathematical competencies. However, in rural environments, women outperform men in scientific competencies. The results underscore how gender stereotypes influence the mathematics learning process.

4. Discussion and conclusions

The research on the degree of rurality in the PISA 2015 results in Spain reveals significant variability in the education system, both in general terms and in terms of gender. This raises questions about the design and effectiveness of educational policies that aim for equity without considering specific rural gradations.

Regarding gender gaps, they persist in all competencies assessed by PISA. Despite the reduction in overall educational differences between rural and urban areas, gender gaps in rural areas persist, albeit varying depending on the competency and the degree of rurality. Male positive significant differences are found in scientific and mathematical competencies in all analysed territories, except in villages, while women excel in linguistic competency in all contexts.

These results support the idea that contemporary rural schools offer educational opportunities comparable to urban ones, as argued by several previous studies (Santamaria, 2018; Tahull y Montero, 2018; Quílez y Vázquez, 2012). Additionally, this study highlights the importance of addressing gender gaps in scientific and mathematical competencies, which influence intellectual selection and segregation both in the academic and professional spheres. Despite efforts to promote scientific and mathematical studies among women, these gaps persist due to existing gender biases and other social and familial factors. Improving education and reducing gender gaps can boost women's confidence to participate equitably in society and the job market.

5. Next steps

This research highlights the need to explore future lines of research to better understand academic performance in rural areas, both in general and from a gender perspective. The heterogeneity of results based on the degree of rurality and the uniqueness of villages underscore the importance of carefully analyzing environmental variables, school ownership, and other factors, such as the socioeconomic status of families. It is suggested to focus on these areas and incorporate a wide range of personal, social, and institutional factors to study school management and transformative changes in the rural context, particularly related to the empowerment of women through education. Additionally, the possibility of using expanded assessments in specific Spanish regions, comparing with other countries, and exploring econometric models and qualitative case study analyses to understand causality in academic performance in rural areas and by gender is raised.