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# A Short Note on Women's Work in the Textile Industrial Colonies of Inland Catalonia in the Early Twentieth Century\*

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## Abstract

*Industrial colonies were one of the most characteristic phenomena of the industrial revolution in Catalonia. They first appeared in the 1870s, developing their own labour and social model, and eventually totalled more than 70 in number. Taking 11 cotton textile colonies as its point of reference, the aim of this paper is to analyse, based on local sources such as municipal enumerators' books and worker censuses, the labour force participation of the women who lived and worked in the Catalan textile company towns in the early twentieth century. Once the rate of female activity is calculated, the article analyses the determining factors of female participation in these labour markets and the family strategies adopted to combine productive and reproductive work. Furthermore, it also examines workforce composition and employment structure, observing the behaviours of female workers in the labour market, the occupations that women performed, and the job stability that they enjoyed.*

## Introduction

In recent decades, many studies across Europe have sought to re-examine the participation of women in different processes of industrialisation.<sup>2</sup> In the case of Spain, it has become clear that national population censuses have systematically under-recorded rates of female activity. As a result, a host of studies in recent years have used local sources to reconstruct historic female activity rates in many regions of Spain, reconsidering the determinants of female labour and the contribution of women to household economies while also shedding

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2 This article presents the first results of the chapter of my doctoral thesis dedicated to the workforce structure. The thesis is in progress, and is entitled 'The textile industrial colonies of Catalonia from a demographic, social and gender point of view, 1880–1940'. For studies of the participation of women in the labour force, see the following contributions to a *Feminist Economics* symposium published in 2012: J. Humphries and C. Sarasúa, 'Off the record: reconstructing women's labor force participation in the European past', *Feminist Economics* 18(4) (2012), pp. 39–67, <https://doi.org/10.1080/13545701.2012.746465>; P. Atkinson, "'Isn't it time you were finishing?'" Women's labor force participation and childbearing in England, 1860–1920', *Feminist Economics* 18 (4) (2012), pp. 145–64, <https://doi.org/10.1080/13545701.2012.725942>; A. Schmidt and E. van Nederveen, 'Reconsidering the "firstmale-breadwinner economy": women's labor force participation in the Netherlands, 1600–1900', *Feminist Economics* 18 (4) (2012), pp. 69–96, <https://doi.org/10.1080/13545701.2012.734630>.

light on the diversity of economic development models.<sup>3</sup> In contrast to the data from the national population censuses, the regions with a developed textile industry in Catalonia showed a high presence of female labour throughout the second half of the eighteenth century and the first half of the nineteenth century.<sup>4</sup> Accordingly, this paper provides an in-depth study of the characteristics, nature and distinctive traits of the female labour force living and working in particular industrial establishments—namely the textile industrial colonies of Catalonia—in the early twentieth century. These establishments had a unique employment and social context distinct from other industrial settings.

Industrial colonies were some of the most characteristic phenomena in the process of industrialisation in Catalonia, not only in terms of the industrial, business and social model that they practiced, but also because of the uniqueness of the landscapes that they created where they sprang up. Today, over 70 industrial colonies with a high degree of development have been located in Catalonia.<sup>5</sup> Most were situated near rivers, streams and canals, especially along the Rivers Llobregat, Ter and their respective tributaries, where they made use of hydro-power (first hydromechanical and later hydroelectric power) to operate their factories.<sup>6</sup>

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- 3 C. Borderías Mondéjar, 'La reconstrucción de la actividad femenina en Cataluña circa 1920', *Historia Contemporánea* 44 (2012), pp. 17–48; L. Muñoz, *Género, Trabajo y Niveles de Vida en la Conserva de Galicia, 1870–1970* (Barcelona, 2010); L. Muñoz Abeledo, 'Women in the rural and industrial labor force in nineteenth-century Spain', *Feminist Economics* 18 (4) (2012), pp. 121–44, <https://doi.org/10.1080/13545701.2012.738302>; A. Pareja Alonso, 'Las mujeres y sus negocios en la gran ciudad contemporánea: Bilbao a principios del siglo XX', *Historia Contemporánea* 44 (2012), pp. 145–82; P. Pérez-Fuentes, 'Women's economic participation on the eve of industrialization: Bizkaia, Spain, 1825', *Feminist Economics* 19 (4) (2013), pp. 160–80, <http://doi.org/10.1080/13545701.2013.834068>; R. Hernández, 'Women's labor participation rates in the Kingdom of Castilla in the eighteenth century', *Feminist Economics* 19 (4) (2013), pp. 181–99, <https://doi.org/10.1080/13545701.2013.837579>.
  - 4 C. Borderías and L. Ferrer-Alòs, 'The stem family and industrialization in Catalonia (1900–1936)', *The History of the Family* 22 (2017), pp. 34–56, <https://doi.org/10.1080/1081602X.2016.1242083>; C. Borderías Mondéjar and L. Ferrer-Alòs, 'Hogar e industria textil: mercado de trabajo y estrategias familiares en Catalunya (1900–1936)', *Historia Social*, 81 (2015), pp. 3–27; C. Borderías, 'Revisiting women's labor force participation in Catalonia (1920–36)', *Feminist Economics* 19 (4) (2013), pp. 224–42, <https://doi.org/10.1080/13545701.2013.831181>; E. Camps-Cura, 'Transitions in women's and children's work patterns and implications for the study of family income and household structure: a case study from the Catalan textile sector (1850–1925)', *The History of the Family* 3 (1998), pp. 137–53, [https://doi.org/10.1016/S1081-602X\(99\)80239-5](https://doi.org/10.1016/S1081-602X(99)80239-5).
  - 5 Most of them were textiles (cotton), but we can also find mining (coal and potash salt), railroads, agricultural, cement, chemical, and power generation industrial colonies. See I. Ruiz (ed.) *Colònies Industrials. Catàleg de l'Exposició* (Barcelona, 2009), p. 262.
  - 6 Although these rivers were not the largest rivers in Catalonia, they were close to and well connected with Barcelona and its industrial and commercial district: see J. Clua, *Processos Hidràulics i Aplicació de la Legislació pel Foment de la Població Rural a les Colònies Industrials* (Sant Cugat del Vallès, Spain, 2001), p. 35. On the factors determining the siting of industrial colònies in Catalonia see: I. Terradas, *La Qüestió de les Colònies Industrial: l'Exemple de l'Ametlla de Merola* (Manresa, Spain, 1994); J. Nadal and J. Maluquer, *Catalunya, la Fàbrica d'Espanya: un Segle d'Industrialització Catalana (1833–1936)* (Barcelona, 1985); G. Dorrel-Ferré, *Les Colònies Industrials a Catalunya: el Cas de la Colònia Sedó* (Barcelona, 1992); A. Carreras, 'El aprovechamiento de la energía hidráulica en Cataluña, 1840–1920: un ensayo de interpretación', *Revista de Historia Económica – Journal of Iberian and Latin American Economic History* 1 (2) (1983), pp. 31–63, <https://doi.org/10.1017/S0212610900012660>; C. Enrech, 'Orígens i formació de les colònies industrials a Catalunya (1868–1923)', in Ruiz, *Colònies Industrials*, pp. 46–79.

The characteristic that distinguishes these establishments is the construction of a workers' colony in the vicinity of the factory. As they were located far from existing population centres, their owners had to build accommodation for the workforce and provide a number of services (for example a commissary and a bakery) in order to attach labourers to their workplace.<sup>7</sup> Over time, but particularly in response to episodes of intense worker unrest in the late nineteenth century, the entrepreneurs and industrialists behind these riverside factories, in search of social peace, began to engage in a set of paternalistic practices, the aim of which was to control the entire life of their workers (that is, their work, social and family activities) in exchange for the provision of a wide range of services, which were often better than the services afforded by the municipality itself.<sup>8</sup>

Drawing on local sources, such as the municipal enumerators' books and workers' censuses of the 1920s, this paper seeks first to calculate the rate of female activity in the industrial colonies and then determine when and why women began to stop working. Then it proceeds to an analysis of the workforce composition, labour organisation, and the residence and mobility of the workforce. It also seeks to answer questions such as: what role did women play in this very specific labour market? Did a clear sexual division of labour exist? What jobs did women perform? Did all female workers live in the colony? Was there a certain degree of job stability?

### Study area, sources and sample

Given the large number of industrial colonies scattered across Catalonia, the area of study has been limited to 11 colonies on the upper reaches of the River Llobregat between the municipalities of Puig-reig and Gironella (Figure 1). This area was selected on the basis of two criteria: (1) the conservation of documentary sources needed to carry out the study; and (2) the fact that these textile colonies were the largest and most highly developed. With respect to the selected chronology, the paper focuses on the 1920s, which marked the heyday of the factory model and its period of greatest maturity.

Two sets of sources have mainly been used. The first set consists of municipal enumerators' books for the municipalities of Puig-reig (1916) and Gironella (1920), which are used to calculate the population structure and the rates of female activity.

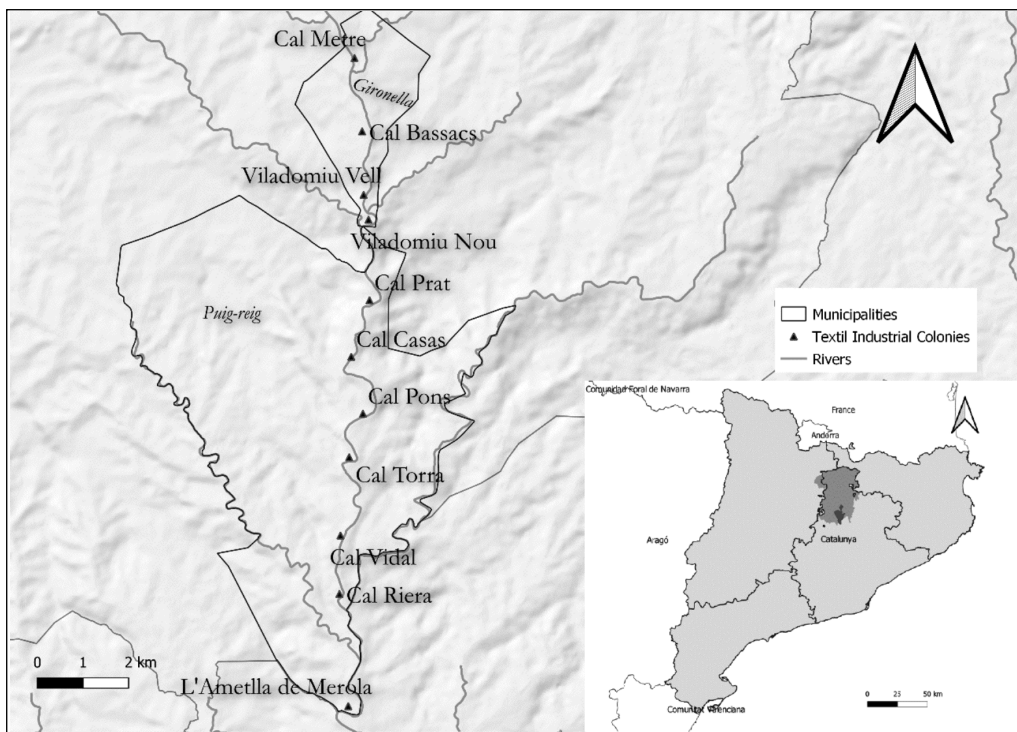
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7 A 'commissary' was a very common shop in these establishments. It provided food and goods to the colony's workers. In some cases, commissaries had their own currency. See C. Enrech, 'La formació del sistema de colònia industrial i la crisi del model fabril textil dels grans vapors urbans: "Les colònies no neixen, es construeixen" (1872-1890)', in L. Virós (ed.) *La Indústria Tèxtil. Actes de les V Jornades d'Arqueologia Industrial de Catalunya: Manresa, 26, 27 i 28 d'Octubre de 2000*, (Barcelona, 2002), pp. 201-23, here at p. 205.

8 The unrest involved protests and strikes in favor of shorter working hours, wage increases and opposition to 'English-style' work: see C. Enrech, 'Les colònies industrials i el projecte social paternalista', *L'Erol* 86-87(2005), pp. 17-21, here at p. 20. The industrialists were influenced by the social doctrines preached by Pope Leo XVIII with his encyclical 'Rerum Novarum': see R. Serra, 'Enric Prat de la Riba i les colònies industrials', *L'Erol* 122 (2014), p. 52-65, here at p. 54.

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Figure 1 Location of the eleven textile industrial colonies along the course of the River Llobregat



Source: Author's elaboration using QGIS 3 software.

These are registers compiled by the municipalities that contain individual personal information such as name, details of family members, age, sex, civil status, whether literate, profession and place of birth. The second set is made up workers' censuses for 1919 and 1923, which give employment information on the labour force working in the colonies, which may be used to analyse the workforce composition and employment structure. The workers' censuses were compiled by the Local Boards of Social Reforms of the municipality with the objective of electing the workers who were to form part, together with the industrialists, of these Boards. (Local Boards were composed of six workers and six industrialists). These censuses (although they were not always exactly the same), generally included the name, surnames, age, profession, category and residence of each worker and the name of the company where he or she was working. Some professions, such as religious, domestic service or education are not included. An overview of the sample used in the study appears in Table 1. With respect to the sample taken from the municipal enumerators' books and workers' censuses of Puig-reig and Gironella, Table 1 only includes those individuals who lived or worked in the industrial colonies. Any other inhabitants or workers in the two municipalities have not been included.

**Table 1** Inhabitants and workforce in the textile industrial colonies of the Upper Llobregat

Municipality	Textile industrial colony	Number of inhabitants	Workforce 1919	Workforce 1923
Gironella (1921)	Cal Bassacs	458	120	–
	Cal Metre	104	123	–
	Viladomiu Nou	317	294	–
	Viladomiu Vell	313	257	–
Puig-reig (1916)	Ametlla de Merola	692	–	671
	Cal Marçal	206	141	–
	Cal Pons	600	315	–
	Cal Prat	269	252	–
	Cal Riera	246	156	–
	Cal Vidal	295	–	379
	Cal Casas	–	–	144
Total		3,500	1,658	1,194

**Sources:** Municipal enumerators' books of Gironella (1921) and Puig-reig (1916); workers' censuses of 1919 and 1923 of each municipality.

### Reconstruction of the activity rates of the inhabitants of the textile industrial colonies

According to the Spanish National Population Census of 1920, 9.5 per cent of working-age women in Spain declared that they were in employment.<sup>9</sup> However, rates were much higher in Catalonia (26 per cent) and more specifically in the province of Barcelona (39 per cent), although even here they were still relatively low compared to the percentages shown by the latest studies based on local sources.<sup>10</sup>

Historically in Catalonia, municipalities where the textile sector was present have recorded above average rates of female activity.<sup>11</sup> Indeed, by reconstructing the rates of activity based on information taken from the municipal enumerators' books for Puig-reig (1916) and Gironella (1920), the resulting percentages are very high. Referring only to the

9 B. Carballo, 'La participación de las mujeres en el Mercado Laboral Madrileño del primer tercio del siglo XX (1905–1930)', in A. Ibarra (ed.) *No es País para Jóvenes: Actas del III Encuentro de Jóvenes Investigadores de la AHC*, (Vitoria-Gasteiz, 2012), p. 5.

10 Borderías Mondéjar, 'Reconstrucción de la actividad femenina', p. 30; Borderías, 'Revisiting women's labor force participation'.

11 The relationship between textile manufacturing regions and high women's activity rates and the importance of the demand factors are also observed in England and Wales during the second half of the nineteenth century. See X. You, 'Women's labour force participation in nineteenth century England and Wales: evidence from the 1881 census enumerators' books', *Economic History Review* 73 (2020), pp. 106–33, <https://doi.org/10.1111/ehr.12876>; L. Shaw-Taylor, 'Diverse experiences: the geography of adult female employment in England and Wales and the 1851 census', in N. Goose (ed.) *Women's Work in Industrial England: Regional and Local perspectives* (Hatfield, 2007), pp. 29–50; J. McKay, 'Married women and work in nineteenth-century Lancashire: the evidence of the 1851 and 1861 census reports', in Goose, *Women's Work*, pp. 164–81. For Catalonia see Borderías Mondéjar and Ferrer-Alòs, 'Hogar e industria textil', p. 7.

inhabitants of the textile colonies and treating everyone from 15 to 65 years of age as members of the working age population, the municipal enumerators' books for the two municipalities indicate a male rate of activity of 97 per cent and a female rate of activity of 71 per cent.

The conclusions are clear. First, the sources seem reliable. Second, the new rates of activity show, on one hand, that nearly every man worked throughout his working life and that, on the other hand, the percentage of active women was much higher than national population censuses indicate. These findings should come as no surprise, given that the textile industrial colonies constituted a very specific and defined labour market. In order to live in the accommodation provided by these colonies, it was necessary for at least one or two working-age members of a family to be employed at the factory. Indeed, the population pyramids of the colonies' inhabitants clearly show how the demand for workers shaped the population structure. Most of the inhabitants were concentrated in age groups between 15 and 35 or 40 years old, especially in the case of women, which reflected the workforce composition by sex and age (see Figure 3 on page 77).

Furthermore, the information provided by the municipal enumerators' books also permits a more in-depth analysis to observe how variables such as age, marital status and family structure affected the rates of female activity. As we shall see when we analyse the workforce structure, even though they show quite high levels of activity, women reached a point when they decided to leave work even though they were still of working age. Drawing on information obtained from the municipal enumerators' books on their age, marital status and family relationships, the next paragraphs turn to an approximation of when and why women ceased to be active in the workforce and dedicated themselves instead to household chores and taking care of their families.

First, the local enumerators' books show that, in the textile industrial colonies of the Upper Llobregat, there was a clear predominance of nuclear families (67 per cent) compared with 15 per cent of extended and 13 per cent of multiple families.<sup>12</sup> Although nuclear families predominated, it is important to highlight that the apparent logic or tendency of families living in the colonies studied in this article was that of the stem family.<sup>13</sup> Seen against the textile industrial colonies observed in other regions of Catalonia,

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12 In this study I have applied the methodology developed by Peter Laslett in order to classify the family types. Nuclear families are composed of a married couple (widowed or not) with or without descendants. Extended families are composed of a nuclear family, its widowed grandparents and/or other relatives. Multiple families are composed of two married couples who can be ascendant, descendant or collateral. The other 5 per cent of the families were people who lived alone or co-residents without a family relationship. See P. Laslett and A. Chamoux, 'La famille et le ménage: approches historiques', *Annales: Histoire, Sciences Sociales* 27 (1972), pp. 847–72, here at p. 861.

13 We consider a stem family as a variant of the extended and multiple family. As Cristina Borderías and Llorenç Ferrer-Alòs said, the stem family is a family system in which the heir, the first-born son, receives all the family patrimony with the obligation to take care of his parents. The siblings of the inheritor, if they marry, have to leave home. When they leave home, the inheritor pays to his brother the legitime (25 per cent of the heritage) and to his sister the dowry: Borderías and Ferrer-Alòs, 'Stem family and industrialization', pp. 3, 8.

these findings appear to be an exception, doubtless resulting from the age and degree of development of the colonies in question. In all other regions, practically all of the families were nuclear families. These results coincide with the results obtained by Cristina Borderías and Llorenç Ferrer-Alòs in other textile contexts not related to industrial colonies. Applying the method developed by Peter Laslett, they studied, in different regions of Catalonia with a strong textile tradition, the type and the characteristics of the families with at least one member working in the textile sector.<sup>14</sup> They concluded that the stem family was still the predominant family model in Catalonia in the early twentieth century.<sup>15</sup> According to Borderías and Ferrer-Alòs, this model, developed over the course of decades of proto-industrial labour, allowed for better adaptation to the factory production system. In Catalonia, the stem family was completely adapted to the labour demand of textile factories, contributing plentiful, cheap, skilled labour that was predominantly female. Families full of women, marked by high levels of celibacy and delayed marriage, brought about a diversification of income and a reduction in the tensions between the world of work and reproduction within the family.<sup>16</sup>

Figure 2 shows the hypothetical family life cycle of all women who lived in these textile colonies throughout their lives in a stem family logic, starting as an unmarried daughter and eventually becoming the grandmother of the family. The graph also indicates the average age of the different groups.

Several conclusions can be drawn from Figure 2. The graph shows that the vast majority of unmarried daughters of working age were active (93 per cent) and that this rate of activity held steady even after marriage. By contrast, it appears that the arrival of motherhood did have a negative effect since, on average, only 63 per cent of women with children stayed in employment.<sup>17</sup> Even so, this percentage is quite high. Also notable is the fact that in extended families the wives of heads of household continued to have relatively high rates of activity (59 per cent), undoubtedly because the grandmothers took charge of any household work.<sup>18</sup> Lastly, the rates fell dramatically when women became the head of household on the death of their husband or when they became the grandmother of the family.

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14 Borderías and Ferrer-Alòs, 'Stem family and industrialization', p. 6.

15 On this aspect a long-term study has to be done. How did families that remained in the colony for more than one generation evolve? Did they tend to become complex? In complex families did the grandparents live with the heir or with the younger children? According to Enriqueta Camps-Cura, in a textile or manufacture context, the second generation of a migrant family cannot be a typical stem family, because the heir had nothing to inherit. If this family became complex 'it was because grandparents lived with one of their younger children, not with the first-born': see Camps-Cura, 'Transitions in women's and children's work patterns', p. 148.

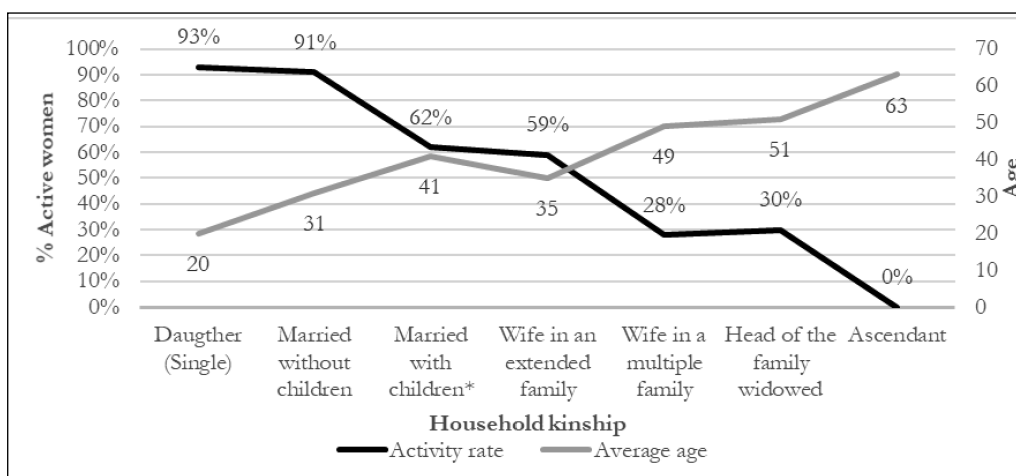
16 Borderías and Ferrer-Alòs, 'Stem family and industrialization', p. 2.

17 As women had more children, the activity rate tended to go down. In nuclear families, 68 per cent of the married women with one child were working. This percentage decreases to 65 per cent with two children, 62 per cent with three children, and 30 per cent among married women with more than three children.

18 These findings are consistent with the results obtained by M. Anderson in his research on 1850s Preston. He found a direct relationship between the declaration of activity of the mothers and the coresidence of non-employed grandmothers. If the grandmother was living in the household, she could take care of the housework and the children and that allowed the mother to work. M. Anderson, *Family Structure in Nineteenth Century Lancashire* (London, 1971), pp. 139–42.

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**Figure 2** Percentage of women economically active by kinship relations and age



**Notes:** The graph only includes women aged between 15 and 65 years. Apart from the daughters, the rest of the sample refers to women who were the spouse or the widow of the head of the family (married daughters or daughters-in-law are not included). The percentage of active women in the 'married with children' category includes only the married women of nuclear families with three children (the average of the sample).

**Sources:** Municipal enumerators' books of Puig-reig (1916).

Furthermore, the graph shows a direct relationship between age and activity rate. As the average age rises, the activity rate tends to go down. The most plausible explanation for this is that the youngest members of families (children, grandchildren, sons or daughters-in-law) stepped in to make up for the paid work of the mother, who devoted herself to household chores. According to Borderías and Ferrer-Alòs, in a stem family, only the eldest woman in the family tended to stop working in order to take care of running of the family and household.<sup>19</sup> That is, the results reveal that, whatever the size of the family, most of the individuals who were in a position to work outside the home actually worked outside the home, even women. This explains why in the textile industrial colonies women, in general, tended to remain at work until a relatively old age with 61 per cent of the women aged between 40 and 44 years in employment.<sup>20</sup>

Another interesting result is the apparently high average age of the married women without children (31 years) and the married women with children (41 years). This finding

<sup>19</sup> Borderías and Ferrer-Alòs, 'Stem family and industrialization', p. 14.

<sup>20</sup> It is important to highlight that these are preliminary results. The next step is to analyse the behaviour of the families who stayed in the colony during a long period and confirm or not the existence of the stem family logic in the textile industrial colonies. What happened with the sons and daughters of these families when they got married? What happened with the fathers and mothers when they retired? Did they stay with their family or did they leave?



coincides perfectly with the results of the study by Borderías and Ferrer-Alòs.<sup>21</sup> The most plausible explanation for this delay in marriage and childbearing is a conscious income accumulation strategy of families.

If we compare these results with those of other regions and industrial sectors, some similarities can be drawn. Without underestimating supply factors, demand factors seem to have played a very important role in the female labour force participation. In regions with a high demand for a female labour force, women presented high activity rates, even if they were married. This was true in Spain in the textile colonies in Catalonia, the fish processing industry of Galicia, the domestic service and some unskilled dock labour plants of Bilbao, and the tobacco factory in Seville.<sup>22</sup> It was also true in England and Wales in the straw plait and hat trades in Hertfordshire, the Staffordshire potteries, the cotton factories in Lancashire and the wool and worsted sector in the West Riding of Yorkshire.<sup>23</sup> The difference between Catalonia and elsewhere lies in the structure of the household. This study, in line with the results obtained in other parts of Catalonia, shows that the stem family was able to adapt perfectly to industrialization and economic development, allowing most of the family members to remain active.<sup>24</sup>

### Workforce composition in the textile industrial colonies

In order to identify the characteristics and nature of female labour in the textile industrial colonies, it is necessary first to quantify the labour force and analyse its structure by gender and age. For this exercise, the information obtained from the workers' censuses of 1923, which provides us with the age of the workers will be used (Figure 3).

The results are clear. Women accounted for 65 per cent of the labour force, which is a rather high percentage. While the textile sector employed the majority of the labour force, the employment figures also include all other non-textile-related professions that existed in the industrial colonies. In addition, the graph indicates that the workforce was quite young, given that approximately 68 per cent of workers were under 35 years of age.

In any event, the results indicate that men and women have different characteristics. On one hand, the graph shows that men have similar workforce percentages across all age groups, even though they are less represented, comprising 35 per cent of the workforce. Furthermore, if in the first age group they represent a clear minority of the workforce,

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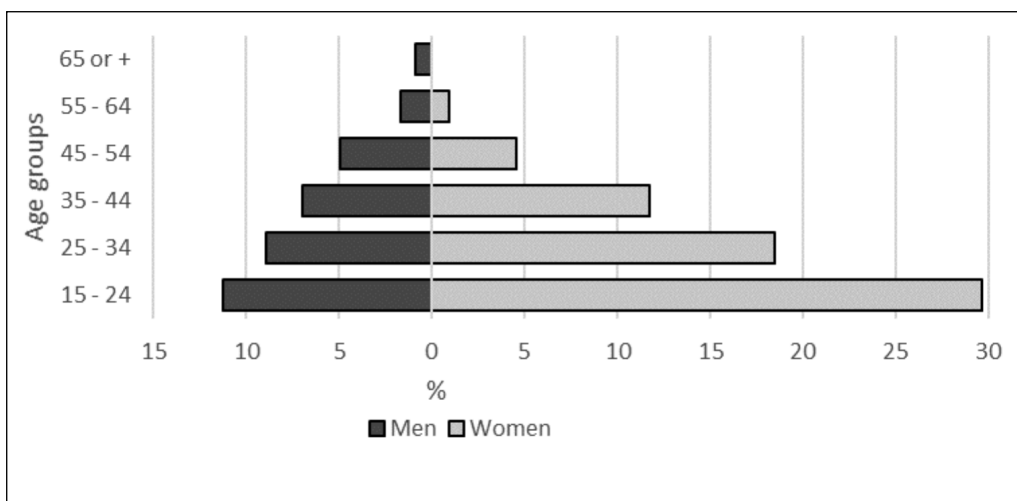
21 Borderías and Ferrer-Alòs, 'Stem family and industrialization', p. 10.

22 Borderías and Ferrer-Alòs, 'Stem family and industrialization', and Camps-Cura, 'Transitions in women's and children's work patterns'; on Galicia, see Muñoz Abeledo, 'Women in the rural and industrial labor force'; on Bilbao, see Pérez-Fuentes, 'Women's economic participation on the eve of industrialization'; and on Seville, see L. Gálvez, *Compañía Arrendataria de Tabacos 1887-1945: Cambio Tecnológico y Empleo Femenino* (Madrid, 2000).

23 N. Goose, 'The straw plait and hat trades in nineteenth-century Hertfordshire', in Goose, *Women's Work*, pp. 97-137; M. Dupree, 'Women as wives and workers in the Staffordshire potteries in the nineteenth century', in Goose, *Women's Work*, pp. 136-63; You, 'Women's labour force participation'.

24 Catalonia, as well as the Basque Country and parts of Galicia, Asturias and Aragon, were the only regions in Spain with a predominance of the stem family. In the rest of the country, the nuclear family was the most important, as in northern Europe.

**Figure 3** Workforce structure by sex and age, 1923



**Source:** Workers' census of Puig-reig (1923).

when they reach the age group of 45–54, they have greater representation than women. This indicates that men tended to remain at work in a higher percentage than women. By contrast, the female workforce tends to cluster in the youngest age groups. Indeed, 48 per cent of the workers in the colonies were women between 14 and 34 years of age. While this finding is further explored in the next paragraph, the difference in the behaviour of men and women can be attributed to factors of workforce demand that were well established by the companies. Moreover, as we have already seen in the previous section, the specific employment and family strategies were important too.

After analysing the workforce composition as a whole, the paper now turns to the study of the employment structure of the industrial colonies in terms of the specific kinds of jobs and manufacturing sectors. This focus enables us to determine which jobs were open to female labour and observe whether there was a clear sexual division of work. We have to consider that in a textile industrial colony not all workers worked in textile-related trades. While the industrial establishments specialised in the manufacture of cotton yarn and cotton fabric, our study identifies many other trades that were not directly related to these tasks. In this respect, it is necessary to bear in mind that industrial colonies were far removed from urban centres and practically self-sufficient. As a result, it is normal to find occupations linked to the maintenance both of machinery (blacksmiths, mechanics, and so on) and of the factory complex more generally (such as bricklayers, carpenters, locksmiths and gatekeepers), as well as office staff (such as clerks and accountants) and staff in the services sector (for example barbers, butchers and bakers).

The textile industrial colonies of the early 1920s had a clear sexual division of labour. First, even though they represented only 10 per cent of all jobs, all of the non-textile-related

positions were filled by men.<sup>25</sup> Second, the textile-related sections were primarily filled by female labour, with percentages in the region of 70 per cent (that is, the results for spinning and weaving are similar). If we focus on the jobs where female labour was concentrated, we find two clear tendencies. First, the senior positions or jobs with greatest responsibility (section head, foreman, manager, supervisor, and so on) were held only by men. Second, both in the spinning section and in the weaving section, there was a clear differentiation between male and female jobs. The only mixed jobs, where the balance clearly tips toward a predominance of women, were those of spinning and weaving. In the spinning section, for instance, the jobs filled by women were those of cotton spinner, cotton rover, fibre drawer and bobbin winder. By contrast, men completely filled the jobs of fuller, carder, threader, knotter and doubler. As for the weaving section, apart from the task of weaver (where 29 per cent were men), the rest of the jobs (warper, lace-maker, etc.) were predominantly done by women.<sup>26</sup>

The particular concentration of female labour in the textile sector is a phenomenon that is also observed in the rest of Catalonia. With the exception of a few cases that developed in the tertiary sector, most of the Catalan municipalities that have been analysed show that, as a general rule, over 90 per cent of female workers were employed in textile factories.<sup>27</sup> However, we find some differences in the case of men. In other textile contexts, the male head of the family and the heir tended to work in non-textile-related sectors (about 75 per cent of cases). For example, in Navarcles, a rural municipality located a few kilometres down of the Llobregat river with some textile industries, most of the male heads of the families were working as farmers.<sup>28</sup> In contrast, their spouses and sons and daughters were working mostly in the textile sector.<sup>29</sup> Inside the textile colonies, as we have seen, most of the male workers, even the heads of the families, tended to work in textile professions.

### Workforce mobility

Workforce mobility has been the subject of limited study, but it is of particular importance. One of the preconceived notions or most accepted claims in the historiography on industrial

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25 Some occupations, such as religious or domestic service, were carried out only by woman, but they were not included in the workers' censuses.

26 It is important to note that this division of labour is slightly variable among the different regions studied, even in the same company over the years. For example, the textile industrial colonies located in the middle course of the Ter river presented higher percentages of male participation in the spinning section. Some authors consider that this reality is due to the persistence of a strong and well-organised working-class movement even in the early twentieth century: see A. Smith, 'La guerra de las contunuas: cambio tecnológico y estrategias sindicales en la industria algodonera catalana, 1899–1914', *Sociología del Trabajo* 24 (1995), pp. 121–52.

27 Borderías Mondéjar and Ferrer-Alòs, 'Hogar e industria textil', p. 7. L. Ferrer, 'Familia i industria textil en un poble de la vall del Llobregat, Navarcles, 1936', In Centre d'Estudis del Bages, *L'Activitat Industrial a la Catalunya Interior: de l'Antiguitat als Nostres Dies* (Manresa, Spain, 1989), pp. 133–63, here at p. 148.

28 Borderías Mondéjar and Ferrer-Alòs, 'Hogar e industria textil', p. 16.

29 Ferrer, 'Familia i indústria tèxtil', p. 149.

colonies in Catalonia is that they were a closed and isolated world.<sup>30</sup> On one hand, to live in the colony, one or two family members necessarily had to work there. On the other hand, in order for young women who did not live in the colony to work there, the colony had to provide special accommodation where the young women would reside during the week.<sup>31</sup> As a result, the entrepreneur was able to control most, if not all, of the social life of his male and female workers.

The workers' census of 1923 indicates workers' places of residence. From this information, it is possible to determine the percentage of workers who lived in the colonies by sex and age. What the data show is that, on average, 25 per cent of all workers who were employed in the textile factories did not live there, and the vast majority of this group (78 per cent) were women. Importantly, the female workers were relatively young women, between 15 and 30 years of age, who in most cases filled the lowest employment categories (assistant or helper).

It is easy to think, therefore, that many of the young women who worked in the textile colonies but did not live there came from families living in the surrounding population centres. This reality fits entirely with the family model (stem family) observed in the surrounding regions, developed in the previous section.<sup>32</sup> This percentage of workers living outside the colony is quite low; in fact, most of the workforce of the sample was living and working inside the colony. However, it is important to note that this situation varied in other regions. Sometimes, in the industrial colonies located near to big municipalities (lower Llobregat and Ter rivers), this percentage was only 50 per cent of the workforce. That is, colonies' isolation and level of development (note that industrial colonies of our zone of study are the biggest ones) seem to be two important variables to take into account.

In the case of the municipality of Puig-reig, much of the two workers' censuses conducted by the local board of social reform between 1919 and 1923 has been preserved. This situation permits a very interesting calculation of the intercensal mobility of the workforce at the colonies. For the purposes of the present paper, our cross-checking focuses only on the workforce at Ametlla de Merola, which was the largest and most highly developed colony in the area. The results (Table 2) show that the workforce was quite stable. After a period of four years, 80 per cent of the colony's employees still worked there. While not particularly marked, there is also a degree of difference between men and women, with the latter showing greater labour mobility.

If we focus on the workers' census of 1923 and calculate the percentage of the labour force (by sex, section and employment category) that had joined the colony over the intervening four years, the highest percentages appear in the spinning section (spinners and

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30 G. Marin, 'Conflictivitat i pau social a les colònies industrials: l'oasi artificial', in Ruiz, *Colònies Industrials*, pp. 168–91, here at p. 187.

31 R. Serra, *Les Colònies Industrials de la Conca del Llobregat. 150 Anys d'Història* (Barcelona, 2019), p. 174.

32 Most of these workers were living in the same municipality as the textile colony or in the nearest ones and they went to work on foot. The establishments also provided accommodation for the female workers during the working week.

**Table 2** Labour mobility in Ametlla de Merola, 1919–1923

	Total	Men	Women
Workers 1919	514	166	348
Workers found in 1923	412	142	270
Percentage of 1919 workers found in 1923	80%	86%	78%

**Source:** Workers' censuses of Puig-reig (1919 and 1923).

rovers).<sup>33</sup> These were precisely the jobs, in the case of both men and women, that had the highest percentages of positions filled by workers who lived outside the colony. In other words, the workforce who tended to remain working in the factory of the industrial colony were living inside it. As noted earlier, Ametlla de Merola was one of the largest and most highly developed colonies and had a high level of services on offer.<sup>34</sup> It is easy to think, therefore, that workers wanted to keep their jobs and their employment situation. Approximate calculations carried out on other textile colonies, both in the same area and elsewhere, show somewhat higher percentages of mobility.

## Conclusion

The industrial colonies, particularly the textile ones, were one of the most characteristic phenomena of the industrial revolution in Catalonia, especially from the 1870s onwards. Located far from existing population centres, they had to build accommodation for their workforce, provide a series of services and carry out specific paternalistic practices in order, first, to attract workers and, later, to maintain social peace by controlling the entire life of their workers. Focusing on the activity rates, the municipal enumerators' books for the two municipalities (Puig-reig and Gironella) gave a male rate of activity of 97 per cent and a female rate of activity of 71 per cent. These results show a percentage of active women much higher than national population censuses indicate, because of the very specific and defined labour market. Taking as a reference the age and kinship relation, we have seen that the percentage of active women tended to decrease only when they became the elder woman of the family, the head of household on the death of their husband or when they became the grandmother of the family. The most plausible explanation is the predominance of the stem family logic, which allowed a diversification of the income and a reduction in the tensions between the world of work and reproduction within the family. That is, our results reveal that whatever the size of the families, most of the individuals in a position to work outside the home did so, even women. Only the eldest woman in the family tended to stop working in order to take care of running of the family and household.

33 The workers' census of 1919 did not collect information on whether workers resided in the colony where they worked or came from outside. Nor was their employment category recorded.

34 The workers' houses were single-family houses with two floors. The factory had a church, a theatre, a shop, a school, and a vegetable garden for each family.

The analysis of the workforce composition has shown an important predominance of female workforce. About the 65 per cent of the labour force were women, most of them aged between 15 and 35 years old. However, we have found the existence of a clear sexual division of labour. On the one hand, non-related-textile jobs were only occupied by men. On the other, assuming that the senior positions or jobs with greatest responsibility were held only by men, in the textile-related jobs there was a clear differentiation between male and female jobs. The only mixed positions were spinning and weaving.

Lastly, the study of the labour mobility has shown that the textile industrial colonies were dynamic establishments. On average, 25 per cent of all workers who were employed in the textile factories did not live there, and the vast majority of this group (78 per cent) were young women occupying, in most cases, the lowest employing categories. Moreover, the cross-checking between the two censuses (1919 and 1923) has brought to light that in only four years, 20 per cent of the labour force had gone. Most of these were workers who lived outside the colony, especially women.

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